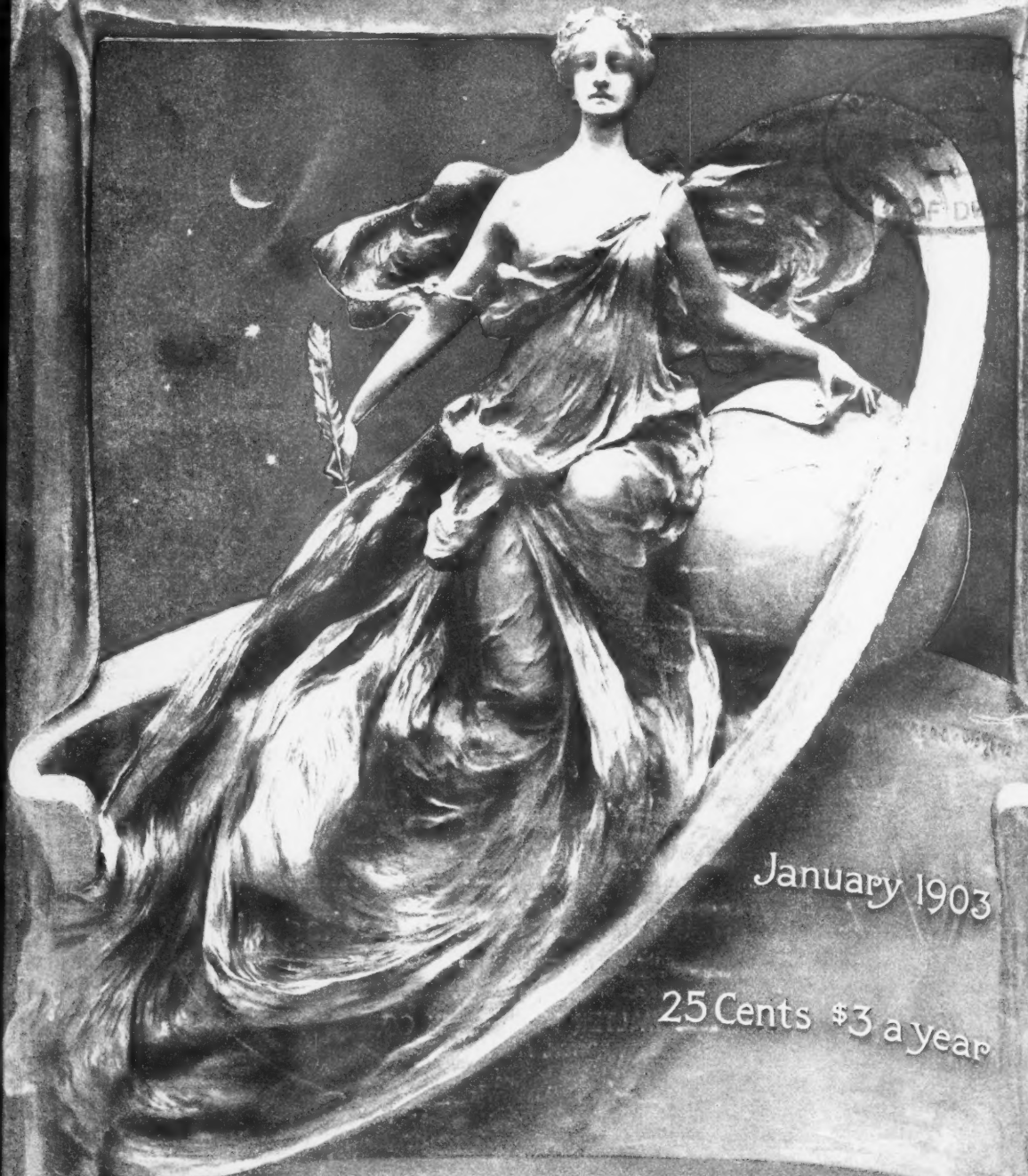
THE WORLD'S WORK



January 1903

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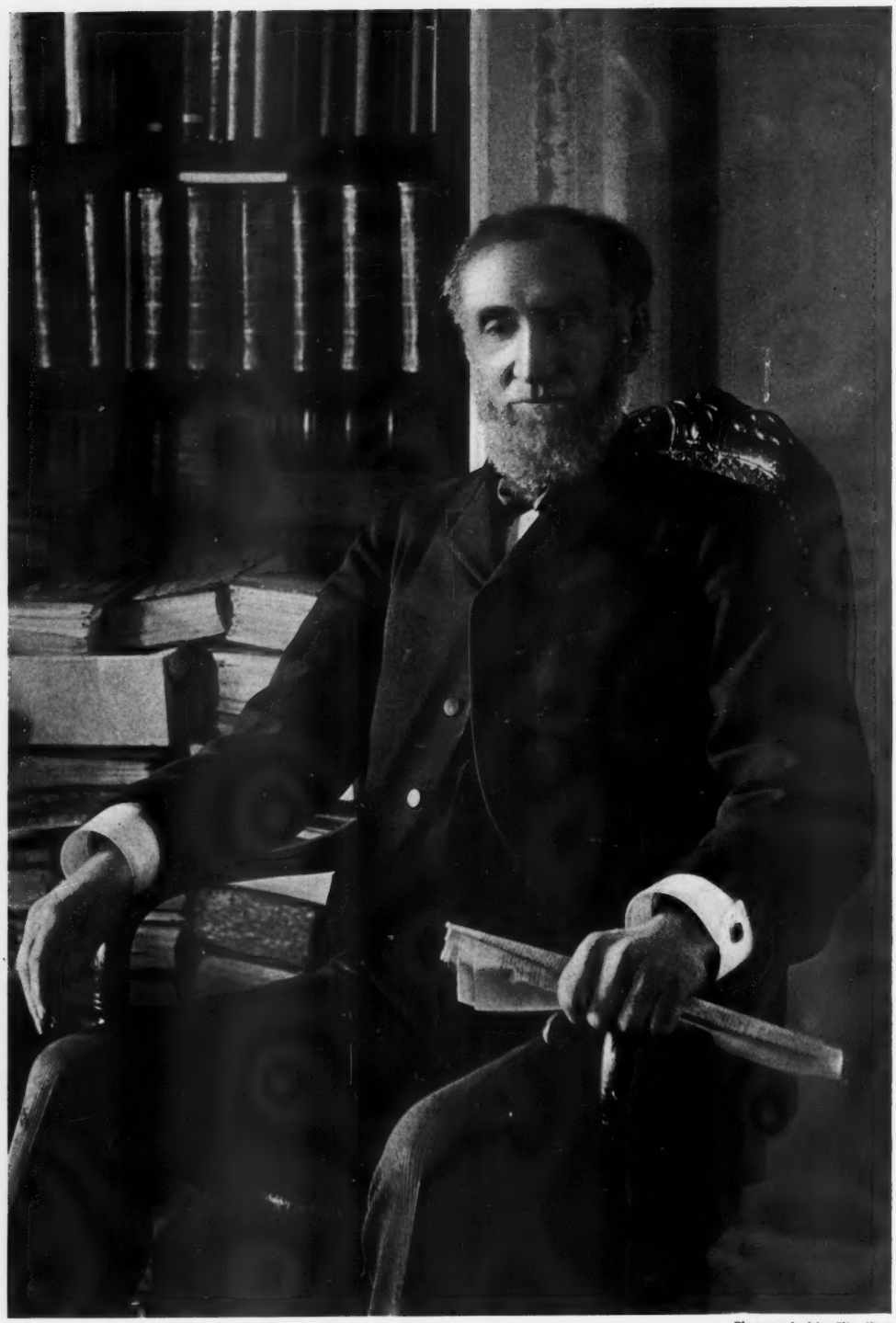

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REPRESENTATIVE JOSEPH G. CANNON, OF ILLINOIS

WHO WILL PROBABLY BE SPEAKER OF THE HOUSE

THE WORLD'S WORK

JANUARY, 1903

VOLUME V NUMBER 3

The March of Events

WE start the new year with the same group of domestic problems with which we started the old year. In our foreign relations and in the tasks presented by our island wards we have made headway, to the steady upbuilding of our national character and of our influence in the world. The year just gone was noteworthy for the ending of wars, for the subsidence of national jealousies, and for the increasing prosperity and strength of the Republic. But our familiar home-problems are with us yet—the trusts, labor-unions, the tariff, the currency, municipal administration, and race feeling in politics.

These involve tasks that cannot be done by sheer energy, however well directed. Such problems are in fact symptoms of defects that yet exist in our national character. In a perfectly developed public opinion they would dissolve as fog dissolves in sunlight; and we move toward their solution as we move toward the building-up of the character and the intelligence of the people. They are important matters of economic, fiscal and political education.

There are many problems of a different and more difficult sort. Such were the tasks of the Civil War and of the Reconstruction period. Such were the tasks presented at first by the Philippine Islands. These were structural. In doing them we were making new experiments with republican government itself. We were putting it to new tests. But even the trusts, and surely labor-unions and the tariff and the currency and city government, involve no such fundamental activities. Grave and stubborn as these are, they are problems rather of regulation, of administration, of social growth, of education. For the solution of them we need long tuition. We shall bungle through many experiments; we shall have many a year of discussion. There is, in fact, no such thing as a solution of them. We shall simply grow toward their settlement; and as we grow they will naturally and gradually eliminate themselves.

SOCIAL, NOT STRUCTURAL, TASKS

AS the public mind releases itself from holiday recreations and again takes on a thoughtful mood, we may fairly claim that we have at least learned more than we knew a year ago about some of these familiar political and fiscal ailments.

About trusts, for instance, there is less vague discussion. Thanks chiefly to the energy of the President and to the clear thinking of the Attorney General, public attention is now concentrating itself on a definite plan of experiment at wholesome regulation. The Federal Government will try, if not at the hands of this Congress then at the hands of some subsequent one, to hold them to responsibility and to some degree

of publicity. This may be done—at least, an effort may be made to do it—by the Federal Government's power to regulate interstate commerce. We may try to make an ineffectual trust-regulating law effective. It is a great gain to get so definite a plan instead of the vague discussion of a year ago. But even with a clear plan there is a stubborn and perhaps an ineffectual struggle ahead.

It may even be said that we have made at least a negative kind of progress with the social problem of organized labor. Some of the unions have tried the public patience too far by ill-advised boycotts and by an unpatriotic attitude toward the militia, and there has been a reaction of public opinion against them. The kindly and indulgent and the generally sympathetic attitude of a large part of the public has given place to a critical mood. The harm that ill-led unions may do themselves has again become obvious; and such a public attitude is the first step toward a return to conservative leadership.

And so with the rest. We slowly educate ourselves by experiment, by mistakes, by discussion, by collision, and by more discussion. We are safe so long as there are unmistakable signs of social growth. And the main matter of clear thinking about all these problems is to know that we shall get rid of them only by outgrowing them. Statutes may help, good theories may be useful, constant effort is indispensable. But all these fall short except as they help toward a better-developed public opinion.

THE SAVING OF INDIVIDUAL OPPORTUNITY

IN all our thought of trusts and labor and such things we shall avoid confusion and be the more likely to steer our thinking true if we keep a firm hold on the one great aim of our social structure. The very corner-stone of a democracy is the preservation of individual opportunity. It is for the best growth of the individual that our whole system of society and of government was wrought out and fought for. This is fundamental. Without this we fail. Old World societies and systems have nurtured classes. It is the peculiar distinction and the everlasting glory of a democracy—the sole hope, in fact, of any continuous advancement of human society—that every man shall have, so far as society can give it to him, a free opportunity for his own development. If we keep this fundamental fact in mind many tangled problems will become straight in our thinking.

It is as true this new year as it was in the year when men first dreamed of a democratic society that the saving fact of it is that there shall be no fixed class. The worst of these domestic problems that are always with us turn on this pivotal truth. If any tendency appear that looks toward permanent class-distinctions and toward making men fast in certain classes, forthwith we have a social problem; whether it come in the form of trusts, or of a tariff, or of labor-unions, or whatever form it take. The mobility of our society is its salvation. It is from this point of view that we are likely to get the most helpful conception of our uneven development and of our social and public duties.

AN IMPORTANT LAW OF SOCIAL GROWTH

AN important and interesting social law is illustrated by the growth of the postal service. The business of the department has responded wonderfully to every increase of postal facilities. For instance, when free city delivery was established in 1857 the receipts were $8,000,000. A little more than ten years later they reached $20,000,000. There has been a similar increase because of the establishment of rural free delivery. "The experience of the Department," says the Postmaster General, "in counties where the service has been fully established for a period of two years, justifies the belief that the revenues in the rural districts will increase fivefold." He incidentally shows another interesting result of the rural delivery system:

> "It was claimed that rural delivery would increase the value of farm lands. Official reports indicate that in communities served by rural free delivery isolated farms have been enhanced in value because of that service at an average rate of at least 5 per cent. in the older settled States; and in the more remote States and Territories, where postal facilities have heretofore been few and far between, the increase of value has been much greater."

The incalculable value of these extensions of the postal service—the increase in the worth of property and the even greater stimulus to the social and commercial activity of the people—emphasizes this great social law: the masses seldom see beforehand the value of new forces for their development, but they eagerly profit by them when they are set going. To wait till the people demand

THE LATE HERR FRIEDRICH ALFRED KRUPP

THE GREAT GERMAN IRON-MASTER

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THE LATE EX-SPEAKER THOMAS BRACKETT REED

an improvement of service or of conditions is to hold social progress back. Real statesmanship or wise leadership foresees that every facility for advancement will be welcomed and will be used. The growth of periodical literature has proved this. Cheap railway fares have proved it. The extension of library service has proved it. This broad and practically universal law has been proved by every facility for social improvement that the people of a democracy have profited by. The cheapening of every public service enormously increases its utilization.

Moral: a parcels post—that is, cheaper postage on merchandise and the admission to the mails of heavier packages than four pounds—would pay. It would pay in money because of the increase in business, and it would pay enormously in convenience; for it would make life easier by that much.

Another moral: a great reduction in telegraph tolls would pay—pay in the same fashion; and one of the crimes of our time is the successful prevention of such an increase in telegraphic convenience as we yet suffer. It costs twenty-five cents to send a ten-word telegram from one town to the next, but a letter can be sent to inland Alaska and drawn hundreds of miles on a dog-sled for two cents.

The people are slow to foresee and to demand new conveniences, but they eagerly use every convenience for their general social advancement when it is provided.

THE DEBAUCHING AFTER-COST OF OUR WARS

IF there were no other reasons why peace at any honorable cost is desirable to a democratic government, there is reason enough in the long after-cost of war. We have paid more than two and three-quarter billions of dollars (if anybody can comprehend such a sum) in pensions on account of the Civil War, and the expenditure goes on at the rate of one hundred and forty-four millions a year. But the cost of pensions is not the worst fact. The worst fact is the demoralization of a large part of the public. All these years systematic and organized fraud has been practised in the name of patriotism, and thousands of men and families have come to regard the Government simply as a dispenser of incomes. The administration of the pension bureau now prevents all the palpable frauds that it can, but under the loose laws that exist there is no way to suppress the activity of the pension attorneys, who continue to debauch the character of veterans and the kinsmen of veterans. There are even at this late day about a million names on the pension roll

The pension after-cost to July 1, 1902, of each of our wars was:

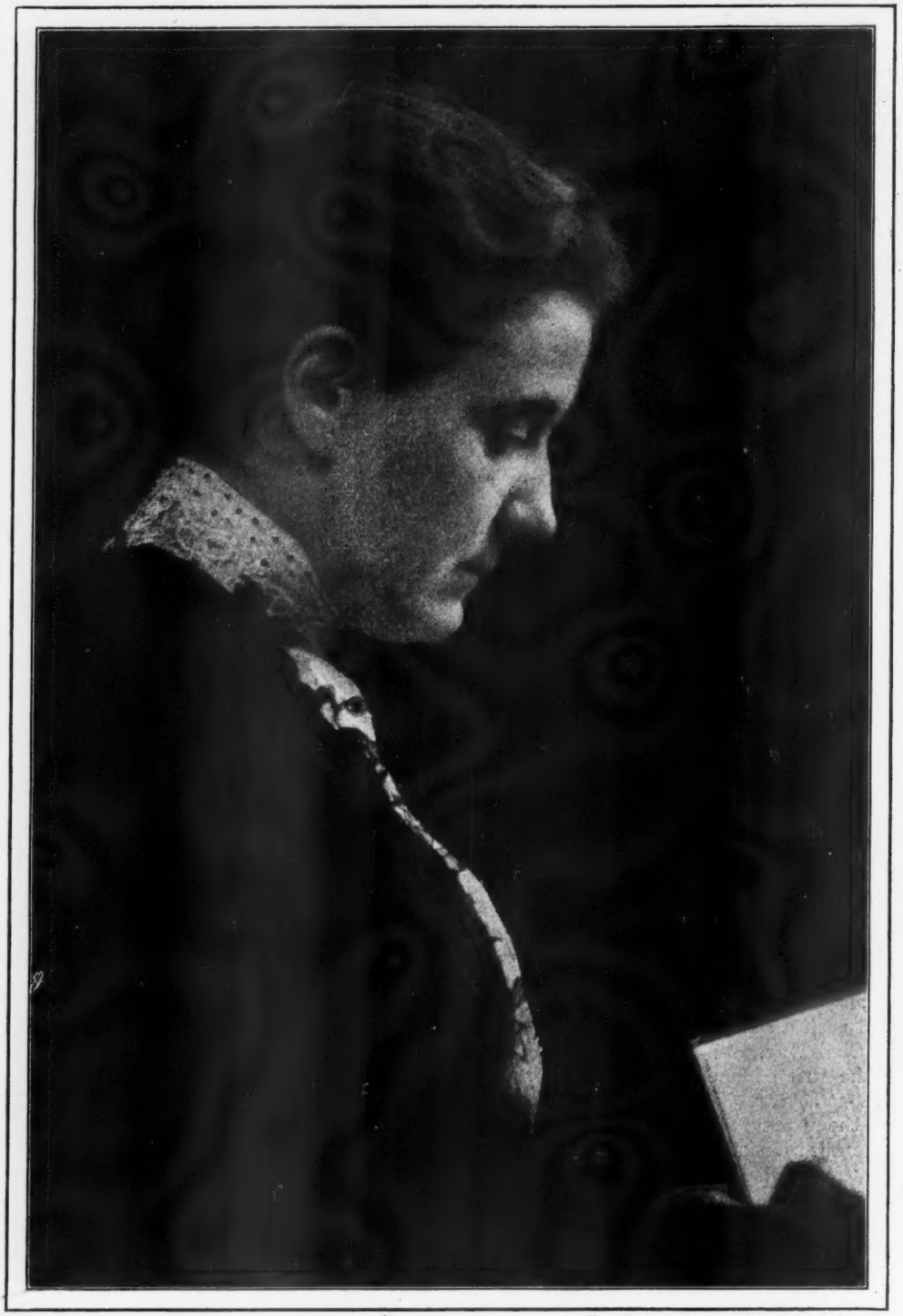
War of the Revolution	$70,000,000
War of 1812	45,025,297
Indian wars	5,814,206
Mexican War	31,861,337
War with Spain	3,275,184
Civil War	2,728,878,276

How large a part of this sum has gone to the degradation of character and how large a part to veterans whose pensions are properly badges of honor no man will ever know. All that we know is that the granting of pensions has revealed the weakest place in our system of government. No political party has shown itself strong enough to withstand the threats and the criticisms of the "old soldier" vote, nor has the private virtue of vast multitudes of men and women withstood the organized seduction of pension attorneys.

We have very nearly got rid of the scandal of the spoils system, to which the demoralization that followed the Civil War gave a strong impulse; but we shall yet have to endure the twin-scandal of pensions till by the sheer lapse of time most of the children and the wives and the connections of the soldiers of forty years ago are dead. In the meantime we shall for a considerable period continue to disburse about one hundred and fifty millions a year, much of it to the degradation of citizenship and manhood. The shame of it is not that so much money is wrongly spent by the Government (though this were shame enough), but that it is so spent as to encourage a debasing conception of the function of government.

OUR RAPIDLY INCREASING SEA POWER

THE fighting strength of the navy, when the vessels that are building and those authorized by Congress have been finished, will be four times as great as it was during the war with Spain. We then had armored cruisers, but only four first-class battle-ships —the *Iowa*, the *Indiana*, the *Massachusetts* and the *Oregon*—and one second-class battleship, the *Texas*. We have built or authorized the addition of fifteen more first-class battle-ships—the *Kentucky*, the *Kearsarge*, the *Alabama*, the *Wisconsin*, the *Illinois*, the



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MISS JANE ADDAMS

FOUNDER AND HEAD OF HULL HOUSE, CHICAGO

Maine, the *Georgia*, the *Pennsylvania*, the *Rhode Island*, the *Ohio*, the *Virginia*, the *Missouri*, the *New Jersey*, the *Louisiana*, and the *Connecticut*—and two armored cruisers, the *Tennessee* and the *Washington*. The *Louisiana* (which will cost nearly four millions) and the *Connecticut* will be better ships than the navy has ever had. The Secretary of the Navy recommends "a continuance without interruption of the increase of ships"—at least two more battle-ships in addition to cruisers.

"The country approves," Secretary Moody says, "with hardly a dissenting voice, of the policy of strengthening our power upon the sea," since we now have large interests in the Pacific as well as in the Atlantic, to both of which the cutting of the canal will add. Dissent to this policy is heard, but it is ineffectual; and we seem sure to continue to increase the navy till we become at last—a long time hence—a great naval power, second, perhaps, only to England, which now has forty-seven first-class battle-ships. Germany has thirteen, France twenty-four, and Russia twenty-two.

But we already lack officers for the ships that we have. The present navy requires 1,600 officers, and we have only about 1,000; and four years hence (in spite of the cadets that will be graduated at Annapolis in the meantime) we shall require at least 1,300 more than we shall have. The wish of the service is that the number of cadets be greatly increased.

The navy offers a career that is attractive to a large number of youth of the best qualities, and graduates of the Academy are practically and properly the only men who now become officers. They constitute a body that any country may be very proud of—these alert and capable specimens of the best American manhood and patriotism; and there will never be an insufficiency of them if the number of youth admitted to the Academy is large enough.

There are now less than 22,000 enlisted men in the navy, nine-tenths of whom are citizens of the United States (all who enlist must now become so), and more than three-fourths are native Americans.

The conclusion of Secretary Moody's report is a graceful paragraph about Admiral Dewey:

"I cannot close this report without acknowledging the sympathy, coöperation and aid which I have received from the Admiral of the Navy. As President of the General Board of the Navy his services have been of great value to the department and the fleet. The security of his own fame has not lessened his interest in the service or diminished his effort for its improvement. His zealous earnestness in the cause is the good fortune of the department, and gives him an added title to the favor of the nation."

HOW THE PRESIDENT HAS STAKED HIS FORTUNES

REFERRING again to the effort to regulate trusts—and the public mind will not get away from it for some time to come—the political aspects of the situation are interesting, even if the immediate outlook be not hopeful. The Republican party in a general way has been the friend of trusts and other vested interests. The tendency has been for them to feel reasonably safe from objectionable interference under Republican administrations. But Mr. Roosevelt has, in a way, staked his political fortunes on calling them to account—has, in a sense, stolen the Democratic position. He would do in a conservative way what many Democrats would do radically.

Now, the Republican leaders may do any one of these things:

They may follow the President's wishes and suggestions with earnestness and try to bring the great corporations practically under the National government's supervision. But this course seems unlikely at this session of Congress. Perhaps it is unlikely at any time.

They may frankly do nothing and thus try to force Mr. Roosevelt to give up his party programme. This effort is probable—its success very improbable.

They may feign earnestness about the matter and thus try to get credit for an effort, but still do nothing. This course is the most probable of all.

If the Republican leaders do nothing the next year and a half to carry out the President's programme, he or they will have to surrender. If they find his personal popularity too great for them, they will make a virtue of necessity and be his ostentatious friends, and the party may show under his leadership a renewal of vigor. This is the party's best chance for an indefinite continuation of power. But it is not likely to take this course willingly.

If the President finds his party in Congress unwilling to follow him, he may appeal successfully to the country; or the Democrats may persuade the country that nothing can be hoped for from a Republican Congress.

Thus we have a most interesting set of forces at play—

The President is in earnest about calling the trusts to responsibility.

The Republican leaders are not in earnest about it.

The Democrats would like to do it, but they lack initiative and leadership.

But a large part of the people are in earnest about it; and whenever hard times come they are likely to become still more in earnest unless some positive action be taken in the meantime.

With all these forces, there are chances for many interesting things to happen. The most probable event will be an unwilling concession of leadership to the President because of his personal popularity. Then the task will be his to put his programme into execution—against enormous pressure. He will have created an unparalleled opportunity.

THE PRESIDENT'S SUMMARY OF OUR "COLONIAL" ACHIEVEMENTS

WHEN one recalls all the grave trouble and loss both of life and treasure and the great political difficulties that we have been through these four years of our "colonial" responsibility, these sentences are the most gratifying utterance in the President's Message to Congress, and they tell a story that we may well be proud of:

"Of Porto Rico it is only necessary to say that the prosperity of the island and the wisdom with which it has been governed have been such as to make it serve as an example of all that is best in insular administration.

"On July 4th last, on the 126th anniversary of the Declaration of Independence, peace and amnesty were promulgated in the Philippine Islands. Some trouble has since from time to time threatened with the Mohammedan Moros, but with the late insurrectionary Filipinos the war has entirely ceased. Civil government has now been introduced. Not only does each Filipino enjoy such rights to life, liberty and the pursuit of happiness as he has never before known during the recorded history of the islands, but the people taken as a whole now enjoy a measure of self-government greater than that granted to any other Orientals by any foreign power, and greater than that enjoyed by any other Orientals under their own governments, save the Japanese alone."

TWO PACIFIC CABLE SYSTEMS

THE last link of the British Pacific cable was laid a few months ago and within a few months the American Pacific cable will be finished. A man in London may now send a message around the world to himself both westward and eastward, and each may circle the globe by British wires and be delivered in thirty minutes. The American Pacific cable will touch only American landings till it reaches China; for its intermediate stations will be Honolulu, Guam and Manila. Although it is the private enterprise of the Pacific Cable Company, our Government has a guarantee of priority of service for its own messages, and of reasonable tolls for the public and the right in time of war to assume control of it. It has even the right at any time that Congress may so direct to purchase the cable at a price set by a board of appraisal. Thus our Government has secured Pacific cable facilities without the expenditure of public money.

The new epoch in commerce and politics that was begun when the Atlantic cable was laid will have no parallel; but a second stage in that same wonderful change begins with these Pacific cables. They will unite the Orient and the Western world as these could not be drawn together in any other way. The tolls from China and Australia westward to the United States have been practically prohibitory of private use. They will now gradually become cheap enough to have a quick influence on trade.

A PROGRAMME FOR SELECTING PUBLIC OFFICERS

A GOOD working theory for the selection of candidates for important offices may be constructed from the truthful remarks of District Attorney Jerome of New York and of Circuit Attorney Folk of St. Louis. Mr. Jerome, who is not afraid of those tasks which none of his recent predecessors dreamed of undertaking, said just after his election, quoting a wise public man of a generation ago:

"The only kind of man to fill a public office is the man who does not want the office and does not wish to be reëlected."

Mr. Folk, who has sent to the penitentiary for giving or taking bribes some of the very men who nominated him, recently declared:

"I told the men who nominated me that I didn't want the office. I don't think that I could be elected for another term."

THE OUTLOOK FOR PERMANENTLY DECENT GOVERNMENT IN NEW YORK CITY

A YEAR of the Reform Administration of New York City under Mayor Low has passed and half his term of office is gone. In November, 1900, Mr. Low defeated Mr. Shepard, the Democratic candidate, by 31,500

votes. In November, 1902, Mr. Coler, the Democratic candidate for Governor, and a far less attractive personality than Mr. Shepard, received 122,000 more votes in New York City than Mr. Odell, the Republican candidate. The politicians and the friends of non-partisan municipal government have, therefore, naturally been taking stock of the political assets and opportunities of Mr. Low's Administration. What has the Administration done, and what is the outlook for permanently decent government of the metropolis?

This single year of Mr. Low's mayoralty has brought great gains—very much greater than the superficial observer is likely to know. In the first place, the *personnel* of the city government—at least, of most of its important departments—is dignified and well-bred. Dignity and good-breeding are not government, but they are very important qualities of good officials. The city has had in its chief executive office a man of whose personal character and civic qualities it may be proud, a representative of its best citizenship. And he has no entangling obligations. This is much.

In the next place, those great departments of the city government which are practically scientific offices, and which clean the city and look after its sanitary welfare, have done their work well. Some of them have done it better than it was ever done before. And this is what was to be expected. Politics have been eliminated from these departments. They are under the direction of competent men; they are well conducted, and the city and the whole country have gained much by their demonstration of the practicability of attacking these difficult problems of city life scientifically. And surely this is a great deal. Even in so short a time as one year some remarkable changes have been wrought—enough to convince anybody that the work of cleaning the streets, of doing sanitary inspection, of caring for the health of the city and all such functions ought never to be at the mercy of politicians. The heads of these great departments ought to serve during good behavior and competent work.

Yet this is not all that the year has revealed. While it has shown these enormous gains, it has shown also certain unfortunate weaknesses of the Reform Administration. In the more directly political parts of his work Mayor Low has been hindered by the holding-over of incompetent officials and by the low character of other departments than the executive. In these directions he has not had a fair field nor sufficient time to work a revolution by slow methods. Every fair-minded man will remember these facts before he pronounces judgment.

But it cannot be forgotten that a year ago the police work in New York was a world-wide scandal. There was organized vice, for there was organized protection of vice. It was the most diabolical condition that existed anywhere in Anglo-Saxon Christendom. The worst of it was, not that vice and all manner of uncleanness flourished, but that large masses of the American people came to regard municipal government (and hence all government) as a power in league with vice—as a thing necessarily and always corrupt. It was as low a plane of political life as any American community has ever touched. And it was the moral indignation that this state of things provoked which made Mr. Low's election possible. It was this degrading condition that he was elected to change.

To change it meant a revolution; and to work such a revolution some quick, energetic and even dramatic method was necessary. This is not a task like the others. It is a task in which millions of people are directly involved, and they must be convinced that a change has come. They must see that the old order of things has passed forever. Such a change can hardly be wrought gradually, for if it is not wrought quickly the old forces of evil easily renew their activity. Half the battle is an early demonstration of earnestness.

Mr. Low is a good type of the reformer. But he is not a revolutionist; and a revolutionist is what is called for.

It is the old trouble of most efforts at reform politics. The reformers are too gentle; they rely too much on moral suasion; they shrink from the rougher work of dealing energetically with men; they are too likely to assume that good intentions and good moral principles win by mere formulation. They talk, but they are too slow to fight. They shrink from rough action for fear of criticism.

The grave danger, therefore, is that the Reform Administration in New York City will be followed by a Tammany Administration, and that much of the most excellent work done under Mayor Low will be undone and have to be done over again. But there are

yet ten months; and in ten months even a New York police force could be remade and the city and the country and the world made to confess that the metropolis had a police army above suspicion. It is a Napoleonic task, and it requires Napoleonic qualities—certainly a Napoleonic vigor of action. The conservative temper is the best temper to bring to all the ordinary affairs of life; but there are occasions in war and in politics when nothing but dash, akin to recklessness, wins.

THE UNDOING OF DELAWARE

WHEN a witness from Delaware in the impeachment trial of Andrew Johnson said to the United States Senate, without the faintest trace of humor, "The eyes of Delaware are upon you," a ripple of laughter ran over the country. The conditions are now reversed, and the eyes of all good men are turned on Delaware; but nobody laughs. After having long been unrepresented in the United States Senate, that State is about to try again to elect two Senators. The question is not whether Delaware shall be represented by Republicans or by Democrats, but whether the long-vacant seats shall be filled by a man whose sole claim to political distinction is his wealth and by an associate of his choosing, or by two men who represent the majority as expressed at the recent election.

The history of the contest for the senatorship in Delaware is a shameful thing. Fourteen years ago, when, for the first time since the Civil War, Delaware had a Republican majority in the Legislature, a brazen stranger, who had recently by accident, it is said, acquired a technical residence in the State, presented himself at the capital declaring his willingness to aid the Republicans with money, and to accept as compensation a seat in the United States Senate. J. Edward Addicks, whose effrontery then astonished all who met him, was not elected, but by his large contributions to the campaign fund he became a perpetual candidate. And then began a most "liberal" use of money in politics. There was money for the leaders of counties and of "hundreds"; there was money for newspapers; there was money to pay off mortgages of farmers; there was money to aid embarrassed business men; there was money for local politicians who chose to speculate in Addicks' gas stock; above all, on election day there was money for voters, black and white, such as the Delaware electorate never before had known.

Two successive Legislatures had Republican majorities, but in each there were enough anti-Addicks Republicans to prevent this adventurer's election. Addicks, in turn, held his men together to prevent the election of anybody else, so that for a time Delaware had but one Senator, and at length none at all. Then Addicks, angered at the resistance, declared that he or nobody should be Senator. The more frank of his supporters said, "He has paid for it and ought to have it." Undismayed by defeat, Addicks in the last political campaign put forth greater efforts than ever. The members of the new Legislature, together with a few Senators that hold over, make a majority nominally Republican, but not a majority favorable to Addicks.

Mr. Addicks is quoted as saying that he has expended thus far only $250,000. How much more he will spend nobody can guess; but he has discovered, he hopes, a money-saving device in the use of Federal patronage. Although the Republican National Convention of 1896 heard Mr. Addicks denounced as a "moral idiot," the Convention of 1900 recognized him as the Republican leader in Delaware, and he is now claiming control of Federal patronage in the State, with the hope that the countenance of the Administration at Washington may coerce the so-called "regular" Republicans of the Legislature to support him and such an associate as he may designate. Such aid as this every friend of the National Administration expects to see withheld from him. The recent unfortunate reappointment of Mr. Byrne, an Addicks Republican, as the United States District Attorney in Delaware, was made by the President for purely personal reasons. If the country has reluctantly accepted that explanation it would not accept the recognition of Addicks without grievous disappointment.

This era of political debauchery has had its effect also on Democratic politics in Delaware. The little State is a sad example of the baleful effects of the persistent ambition of a single unworthy man to reduce it by the use of money to his political control. It were better to remain unrepresented in the United States Senate for an indefinite time

than to yield to him. It is an anomalous and shamiful situation that hardly has a parallel in our political history.

DEEP WATERS OF THE RACE PROBLEM

PRESIDENT ROOSEVELT has again got himself into the deep waters of the race conflict in the South. The proposal to appoint a colored man, who is said to be personally capable and thoroughly fit, as Collector of the Port of Charleston, South Carolina, raised two questions.

The first question is, whether in making Federal appointments a man should be excluded simply because he is a colored man. White public sentiment in the South almost unanim usly declares that a man's black skin should debar him, that such an elevation of a Negro disturbs the whole social and political status of Southern society, that it encourages "Negro supremacy," and that it gives the support of the Federal Government to a principle that Southern society will never admit. Very determined is the Southern whites' opinion on this subject.

Equally frank and clear is the President's attitude—that he cannot and will not make a distinction between men on account of their race or color. Assuming individual fitness, a colored man stands in the same relation to American citizenship and to the Federal Government as a white man. There is even an incidental theoretical difference, if there be a difference at all, in favor of the colored man; for the recognition of the ability and the character of worthy colored men is the more necessary for the encouragement of colored youth to develop character.

When the matter is once brought to argument the President clearly has the humane and fair side of this contention.

But the other question raised is a question of expediency rather than of principle. If a man is for any reason objectionable to practically all the persons who have to deal with him as a public officer, ought he to be made a public officer? Ought not the appointing power to have due regard for the public sentiment of the community? Is the main matter in making a political appointment the acceptable service of the community or the insistence on a humane and fair principle in regard to race relations? Or, for that matter, are the race relations made better by such an insistence, or may they rather not be made worse?

The Negro is now practically disfranchised in the South and made as unwelcome in several States in the councils of one political party as of the other. From his point of view what is the outlook? If the Federal Administration were to follow the Southern political example and were to yield to the Southern white feeling, such an attitude would mean that the Negro, however capable and personally worthy, cannot hope for political recognition from any quarter until by the general development of the race and the slow work of time a humaner and more tolerant public opinion prevails among the Southern whites. No National Administration, certainly no Republican Administration, can take such a position.

There is no more pathetic figure in modern life than the educated and capable Negro of high character. He has the white man's civilization, and he has the white man's responsibilities as a citizen; but he may not, in the dominant Southern opinion, indulge in the white man's aspirations nor open doors of opportunity that to the white man are flung wide. The National Government is his only political hope.

THE CURE FOR LABOR TROUBLES

THE ease with which industrial disputes can now be peacefully adjusted received its annual emphasis at the conference of the Civic Federation early in December. True, nothing was finally proved, but the mere concentration of a roomful of representative capitalists and labor-union leaders on the varying phases of a single problem was bound to afford illumination. It became clear, for example, that the unions are committed to a demand for the eight-hour day. Restriction of output was talked of. But it took a meeting of this sort to set forth the practicability of a union's foregoing restriction in exchange for the eight-hour day. Mr. Marcus M. Marks, President of the National Association of Clothing Manufacturers, told of a case in which the exchange had been made. Compulsory arbitration was frowned upon by every one. Incorporation of unions could get no serious consideration; it remains, as it has always been, an academic theory. Unanimously the members of the conference—none more strenuously than Mr. Gompers of the American Federation of Labor—deprecated strikes; and at the last

meeting of the conference the consensus of opinion became crystallized on the panacea for labor troubles. In cases of industrial disagreement, it was felt, both sides should discuss the points at issue in face-to-face sittings, then come to a decision either by mutual consent or by arbitration, and then make agreements binding the parties for a definite period. Concrete examples were given by actual parties to such agreements to show their complete success.

If industrial difficulties are ever to be solved by diplomacy rather than by war, the result will come only through such frank discussion as marked this conference. The value of such conferences, however, lies in the rapid-fire of questions and answers—as in the tilt between Archbishop Ireland and President Gompers regarding non-union men—and not in academic papers. If future conferences are to have their greatest value—and their value is great—there should be more cross-examination and fewer lectures.

HUMANE CONDITIONS OF EMPLOYMENT

PRESIDENT ELIOT of Harvard University pointed out with instructive clearness, in a recent address delivered in Cambridge, Massachusetts, five prime conditions of humane employment; and they make a trustworthy chart to sail by in our thinking over this whole sea of troubles. These conditions are:

(1) A rising wage for efficient work.
(2) Steady employment after adequate probation.
(3) Encouragement for the making of a permanent home.
(4) The opportunity to serve generously and proudly the interest with which the laborer is connected; and
(5) A pension on disability.

Mr. Eliot declared that all these conditions of humane employment have been realized in Harvard University. A college professor is a hired man—hired generally under exceptionally satisfactory conditions. Yet it may be said in parenthesis that these very conditions present a somewhat notorious difficulty—the difficulty of getting rid of incompetent men in college faculties. It is a difficulty, however, that is not peculiar to this kind of employment; and it can always be overcome by vigorous and frank administration.

As a system—so to call it—Mr. Eliot's outline is as nearly ideal as any system that has been reduced to practice. He is, as the long-time president of our largest university, an experienced employer of skilled labor; and this system has been wrought out under his administration.

"These five conditions of humane employment," he says, "I believe to be not theoretical or fanciful, but perfectly capable of realization. I venture to say that ten years ago no large American industry recognized these principles throughout its service. That is, no large American industry recognized all of them, or even a majority of them, and yet all these humane conditions of employment are founded on perfectly well known and moral qualities, physical habits, normal desires of mankind. Today the large services in which these principles are adopted are few in number in our country."

Most of these conditions, it will be observed, are not directly encouraged by most labor-unions. That is to say, the organization and the methods of most unions do not, as a rule, encourage indefinitely continuous service. So long as a man may be commanded to quit his job because of a wrong done by an employer of whom he never heard to an employee of whom he never heard, there is small chance of such permanent employment, or expectation of it, as underlies these humane conditions.

There is needed, therefore, such a modification of labor-unions as will enable employers and employees to establish permanent personal relations. Social reformers who have the ability to manage men and to shape organizations and institutions may find a large field of usefulness in the guidance of unions. Many of them are now chiefly fighting organizations. But this is only the first step in their development. What is the next step and the next? Here is a chance for constructive work of a very high kind, for leadership that may rise to the level of statesmanship.

RAILROAD PROSPERITY AND A $43,000,000 INCREASE IN WAGES.

WITHIN a few months the wages of railway employees have been increased about ten per cent. on roads that comprise about three-fourths of the mileage of the country. Almost every important system has voluntarily increased the pay of its men except those who receive large salaries. Some made the increase by a single order, as the Pennsylvania system did; others by a more

gradual method, taking one department after another. This increase of wages is equivalent to about one and three-quarter per cent. of the net earnings of the roads. It will cost the Pennsylvania system, for example, nearly $4,000,000 a year; the New York Central nearly $3,000,000; the Burlington, the Atchison and the Southern Pacific each more than $2,000,000; and it is a total addition of about $43,000,000 a year to wages.

This increase was made, not in answer to definite demands of the employees, but as a far-sighted and just method of fair-dealing and of forestalling discontent. Railroad employees are, as a rule, among the best paid men in the ranks of labor. They have the advantage, too, of permanent employment; and on a few roads there is a pension system. The railroads, in fact, come nearer to carrying out the conditions of humane employment laid down by President Eliot than any other employers of large numbers of men.

The railroad companies use this increase of wages as an occasion to increase rates. Thus the public will pay the increase—properly enough, provided the rates are not increased unduly; for that they shall remain as low as possible is a prime condition of prosperity and progress. But the only way in which men who work for wages or salaries can share in the general prosperity is by an increase of wages or salary; for the cost of living is increasing rather than diminishing. Farmers, merchants, manufacturers—all other classes except wage earners—earn more by an increase of business even when the price of what they sell does not rise. Not so with men on salaries.

But the great railroads have been prosperous enough to raise wages to some extent at least, even without increasing their rates appreciably. Their gross earnings were $540,000,000 more in 1902 than in 1892; their net income was $113,000,000 more; and they paid $48,000,000 more in dividends. It is noteworthy that this ten per cent. increase in wages is almost as great as the increase in dividends paid in 1902 over those paid in 1892.

In general it may be said that at no preceding time in our history have our great railroad systems been in so good a condition or have made so good a showing as now, nor has their great army of employees fared so well. This is much to say when it is remembered how enormous these great interests are, how large the army of railroad employees is, and how intimately the service touches every part of the population. There were, for instance, 607,000,000 passengers carried by railroads in 1902—which means that, on an average, every man, woman and child rode about eight times during the year.

ECONOMIC SERMONS FROM THE PULPIT

BISHOP LAWRENCE, of the Episcopal diocese of eastern Massachusetts, wearied perhaps by the frequent and sometimes unfortunate use of the coal strike in sermons, maintained in a recent article that the preacher as a citizen has the right, and it may be his duty, to talk about current events; but that in the pulpit it is his duty to preach the gospel. Yes, and the pulpit would gain much if there were fewer sermons on economic tendencies and social and political events; for the gospel has these advantages over such subjects—it is easier to preach, it is easier to listen to, it is safer to expound; and it is more edifying.

Yet throughout the history of Christianity many of the greatest preachers have preached about current subjects. They have fulminated against thrones; they have rebuked social crimes; they have denounced entrenched wrong. But there is a difference. A great preacher may do what a little preacher cannot do; and most of the contemporaneous preaching on "current events," especially on political and economic subjects, has the sound of the amateur even when it has not the sound of the sentimentalist. The safest rule for all preachers, except those who know that they are great, is to stick to the gospel. Even platitudes are preferable to economic theories that are not sound and to political discourses that are transcendental.

THE HUMAN ATOMS OF A STEEL-BUILT CITY

FEW things in this wonder-age in which we live are more astonishing than the passenger traffic in New York City. When the elevated railroads were built in Manhattan and in Brooklyn the prediction of many sensible men was that the street-car travel would suffer greatly. But the street-car travel increased and has kept on increasing to a point of unbearable discomfort in the busiest hours. The increase has been at so rapid a rate that a man who only read the statistics would never guess that any other

means of travel was needed. Yet the elevated trains also during the busy hours are always so crowded as to provoke wonder both at the number of passengers and at the willingness of thousands of men and women to stand in packed cars (packed as sardines are), and to go and come swinging to straps. One wonders at this till one sees the still greater rush and crush at the Brooklyn Bridge. There is no other such spectacle under the wide heavens—men and women struggling not for seats but for standing-room. They literally push and are pushed, more densely crowded than cattle on cattle-boats, to and from their daily work. The wonder grows why civilized human beings will submit to such an experience twice every working day.

Well, street cars, ferries, sidewalks, cabs, elevated roads, and the Bridge—all these do not accommodate the throng. New bridges are building, and they, too, will be as crowded as the old one almost as soon as they are open. The great underground subway now under rapid construction will become the greatest thoroughfare on the globe. Yet it is already obvious that all the other means of travel will then be as crowded as they now are; for the Interborough Railroad Company, which will operate the subway, has made a perpetual lease of the elevated roads in Manhattan, guaranteeing to pay a seven per cent. dividend on their stock. The elevated roads in Manhattan alone carry nearly 200,000,000 passengers a year!

This urban travel gives a hint of the development of the great office buildings downtown and of the apartment houses uptown—of the working and living in high structures, of urban growth upward. The steel building and electricity as a motive power are fast changing the character and the habits of the swarming millions in New York. The rapid transition from the old kind of city to the new gives the social philosopher such a field of study as was never before presented—at least, the social philosopher who is not a part of it; for not the least remarkable thing about this change is the apparent unconsciousness of it on the part of the people who are pushed and jammed and shot up and down and who live and work in such an intimate compression of population as Chinamen never dreamed of—many of them, alas! at the same time in such isolation as no country folk except shepherds ever knew.

THE SMOTHERED DWELLERS IN "FLATS"

THE man died in New York the other day —a Mr. Kilpatrick—who is said to have built the first "flat," or apartment house. The necessity that families should live one above another was inherent in the growth of the modern city, and it is not just to hold any individual responsible for such a degradation of urban humanity. It was bound to come; and, if one man had not had the ignominious distinction of first building such a dwelling, another man would have had it. But it was an evil era that was then begun.

For, although it has been only fifty years since the "flat" began to dwarf the dwellers in cities, it has already so distorted the character of thousands of families that they consider apartment life normal. There are men who have so far fallen from nature as to put gas-logs in country houses; and nothing but death in childhood is so pathetic as this revelation of the abnormal. Now a certain proportion of unfortunate mankind will perhaps always have to live in sunless cells out of sight of all things that grow; but as long as living under such conditions is frankly regarded as a misfortune of poverty—as life in the slums—all is not lost. Tenement dwellers may keep some memory of green fields and dream of the joy of stepping on the unpaved ground; there is still hope of normal life for them. But, when men and women pay large sums of money for fashionable "apartments" and by choice live under conditions that dry up the sap of individuality, a hopeless social condition follows. Such persons regard the country as a thing that they have discarded except for condescending summer uses. Caged life has become the natural life to them, and they have forgotten that they are a sort of zoölogical specimen rather than healthy individuals.

Our grandfathers regarded it as a misfortune that they were obliged to live in tunnels for houses—that is, in city houses built in blocks, which could have sunlight only from the front and the rear. They could not foresee the contentment of well-to-do people of our generation with the still greater surrender of individual freedom which has come with the "flat." The hived and smothered millions that from necessity or from choice know only a contracted indoor existence and have become reconciled to it or even content with it—these are our real paupers, whether they be rich or

poor. It is not easy for a man to dwell in a "flat" and to be a generous-natured gentleman, nor can a natural womanhood flower out of reach of sunlight and the soil. The convenient artificiality of apartment life is the more dangerous the more comfortable it is made, for the more persons it then seduces from the fundamental virtue of a natural individuality.

MR. REED

IT has been long since the death of any public man, except President McKinley, caused keener regret than the death of ex-Speaker Thomas B. Reed. Although he had not been in public life for three years, he was called "Mr. Speaker" oftener than he was called Mr. Reed; for it was as Speaker of the House of Representatives that he impressed his strong personality on the country. The act by which he will longest be remembered was his revolutionary change of the custom of the House whereby members who were present but chose not to answer to a yea-and-nay roll-call were counted as present. By this ruling an end was put to the obstructive tactics of the minority, who, by simply refusing to answer the roll-call, had prevented a quorum from appearing to be present. For this revolutionary change in the rules of the House he was denounced as perhaps no other public man has been in recent years. Yet the Democrats subsequently adopted the same rule, and thus one method by which a minority used to thwart a majority in the House is gone forever; and its going was a great gain. It will be by this achievement more than by any other in his public life that Mr. Reed will be remembered. But he has other claims to remembrance, for distinguished service on the floor as well as in the chair.

He enlivened the public life of his period of service by a keener wit than any of his contemporaries had. In private life, too, this made him attractive; but it was a quality that probably cost him a general popularity among politicians. During his long service few prominent men or important measures escaped his sharp sallies; and sometimes they stung and stuck. The irresistible impulse to prick a humbug doubtless cost him many political friends—such friends, at least, as a man finds useful when he becomes a candidate for a presidential nomination.

But it was not Mr. Reed's wit only that made him an unsuccessful candidate for the Republican nomination for the presidency; for he did not know how to set about a task of this sort. He had to a remarkable degree the quality of good companionship with those whom he knew and really cared for, but not with the crowd. He was at once too shy and too critical to become a popular idol. Nor did he know how to cultivate the masses nor to impress himself upon them. This was not all; he did not know the masses of the American people as Mr. McKinley, for instance, knew them. In thought and temperament he kept too close to the Atlantic seaboard. To the rank and file of the voters in the middle Western States he was merely a name, not a personality; and, as they saw him, he was oftener criticizing policies than making them. Indeed, his mind was critical rather than constructive. He retired from public life because he could not approve of the war with Spain, nor of the Republican policies that grew out of it. Since he was too loyal to his party to forsake it (for he was a stanch partisan always), he could either openly oppose its policy and try to shape it to his liking or he could retire. A greater man in his place would have made a constructive effort to change the party policy; but it suited his temperament better simply to retire.

In his private life, after he became a citizen of New York, he held all his old friends and made new ones by the charm of his personality and by his inflexible character. Mr. J. G. Cannon spoke the feeling of many men when he said:

> "Thomas B. Reed, the greatest in intellect, the broadest in understanding and the most courageous in conviction of all American statesmen I have known."

He was a courageous, able and stalwart man—attractive but not constructive. For this reason he is missed as keenly as any man of his generation would be, but he will take a less important place in our political history than he filled in his lifetime.

MR. NAST'S IMMORTAL DONKEY, ELEPHANT AND TIGER

THE late Mr. Thomas Nast, who recently died at Guayaquil, Ecuador, where he was Consul General of the United States, added three symbolic figures to our political life that (so far as men now living can see into the future) give promise of perpetual use.

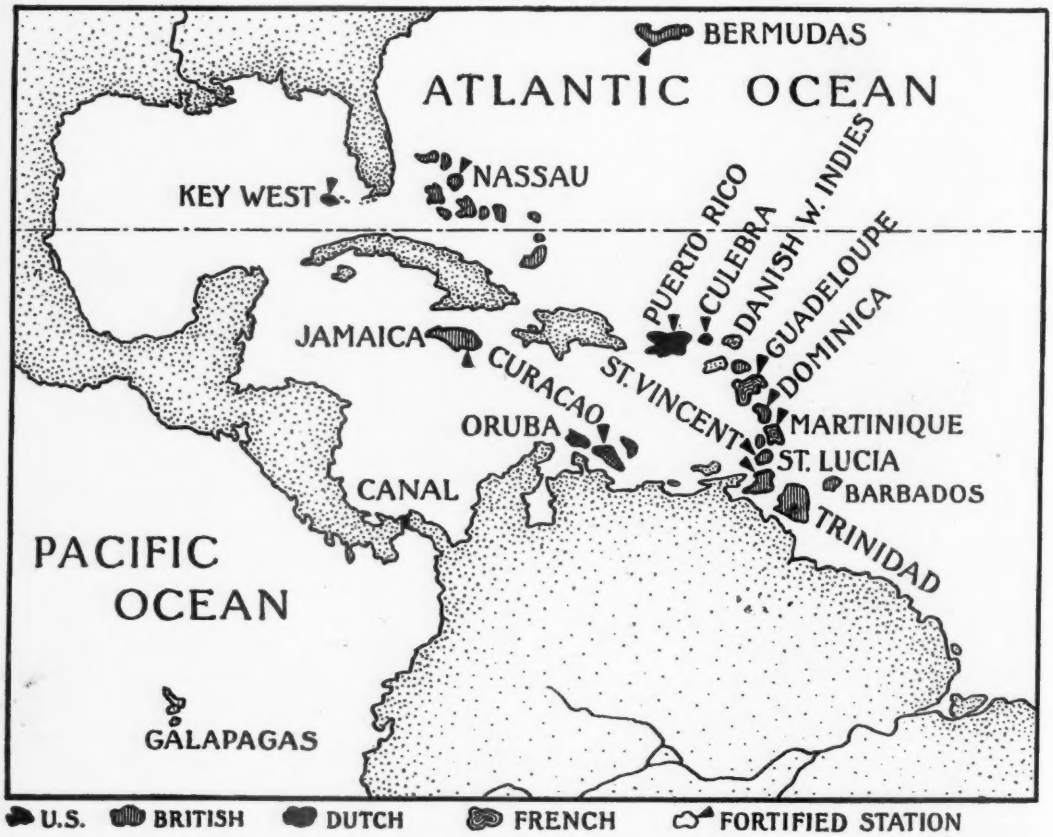
The Democratic donkey, the Republican elephant and the Tammany tiger seem likely to live as long as these parties exist. A no less apt cartoon by Mr. Nast represented Tweed in his checked suit of dollar marks. This followed Tweed relentlessly to his capture and death. In the active days of his pencil Mr. Nast did many other clever and effective things. But the three great party symbols, the donkey, the elephant and the tiger, have ever since remained indispensable to us. No other cartoonist has added so much to the permanent vocabulary (so to call it) of our politics. They are parallel in their finality with those phrases from the Farewell Address, the Declaration of Independence and the Gettysburg Address that have become, as it were, the very alphabet of our political thought and speech. Such things are called, for short, works of genius. The many clever cartoonists since Mr. Nast's active days have probably created nothing so fundamental and lasting.

THE DURBAR AT DELHI

THERE have been few more remarkable things in modern life than the durbar at Delhi—the celebration in India of King Edward's coronation on a scale of magnificence that the coronation itself did not approach, if an Oriental fête may be compared with an Occidental one. The incongruity of the elaborate spectacle is emphasized by the American birth and rearing of the lady who is the wife of the viceroy of India and by the presence of many American spectators.

The political significance of this unparalleled display of Indian wealth and splendor and pomp and ceremony by the Indian princes (all really empty of power) is that England's rule over them is made easier by a show of power. There is an irony in this that is at once ludicrous and pathetic.

Few of the Indian princes have a real loyalty to Great Britain. If you scratch a Hindu you find an enemy of Occidental civili-



A MAP SHOWING THE GEOGRAPHICAL RELATION OF THE WEST INDIES TO THE UNITED STATES, TO SOUTH AMERICA AND TO THE ISTHMIAN CANAL, APROPOS OF THE NAVAL MANOEUVERS

zation. Yet England's rule over them, after reckoning in all the evils of it, has been and is the best force for good that exists in these swarming areas. It is the only hope of the application of modern forces to those vast populations, the only hope of sanitation, of health, even of food-supply. The future of India is as interesting a speculation as its past is an interesting study; but a little more than a hundred years of active English experience is not enough very profoundly to affect the results of thousands of years of over-crowded inaction. Such a task must be judged by century-results.

THE INDIVIDUAL RESPONSIBILITY FOR PANICS AND DEPRESSIONS

[THE WORLD'S WORK publishes every month an article in which some timely and vital subject of the financial world is taken up]

ALTHOUGH the new year finds us still in the enjoyment of that exceptional prosperity which has made the last five years the most remarkable period in our history, and although nobody sees any peril definite enough to cause immediate alarm, yet there is a very general feeling that a stringency in the money market, stagnation in trade and perhaps a panic must sooner or later come, and that perhaps they will come at an early time. Is there good reason for such a fear?

One argument for fear may be safely dismissed—the argument that, because periods of depression have come at more or less regular intervals, they are inevitable—that, do what we will, we cannot avert them. To believe that the commercial world is bound to become depressed at regular intervals, with or without cause, is to harbor a superstition.

Yet every period of prosperity does bring temptations to the use of reckless methods, and reckless methods will bring disaster if enough men indulge in them. On the other hand, a panic or the recurrence of any long period of depression is for this very reason preventable; for there is no occult or necessary reason why they should come. The whole thing is a matter of conduct—a matter of the personal conduct of men who carry on the activities of the business world. The question is whether the business world is yet sufficiently intelligent and self-restrained and can work sufficiently in union to prevent the coming of depression.

Serious disasters have been caused chiefly by mortgaging future profits or values. The clearest example of panics of this sort is given by those that have followed land speculations. In a given community land values rise, whether for a legitimate or a speculative reason. If they keep going up men make big profits. The bigger the profits and the more men that make them, the more easily the insidious craze spreads. Presently everybody is speculating in land. There never was a better example of crowd-craziness or of the loss of judgment by whole communities than the great land "booms." Sensible men have forgotten real values in the excitement; they have forgotten the legitimate causes of a rise in value. They have lost a sense of proportion. In these crazes the land itself has sometimes dropped clean out of mind. Lots that never existed have been bought and sold and sold and bought at continually increasing prices—prices that bore no relation to values, but that were determined wholly by the mood of the speculators. Most communities have at some time suffered more or less from such a craze; and many times in our history large numbers of people over wide areas have run the course of this madness.

Such an extreme and familiar example of anticipating real or imaginary future values or profits has been cited to show how contagious any movement of this kind may become, and how under the excitement of it sensible men lose their heads. Other ways of anticipating future profits and values are far less direct and more insidious; and they are less easily recognized.

Take, for example, the organization of a prosperous industry. Suppose that there are ten competing factories, each earning a net profit of fifteen per cent. Seven and a half per cent. is, of course, a good profit if it can be continuously maintained. The ten factories are consolidated under one financial management. If its securities—in stock or bonds—can be sold on a "guarantee" or an expectation of seven and a half per cent., they are marketed. The promoters, the underwriters—everybody on the "inside" of the consolidation—receives some of this watered stock. Among the owners of some of the factories are men who prefer cash to securities. Securities are, therefore, sold to the public for this reason as well as for other reasons.

Here we have a dangerous situation. An adverse change in the trade of this particular product—which may come from any one of a dozen or a hundred causes—may lessen the profits. But we are anticipating the course of events.

In our present period of activity and of large profits hundreds and hundreds of combinations such as the foregoing have been made, some of them of enormous magnitude. Not all have been "watered" in direct and open ways, but most of them have in some way mortgaged the future. They proceed upon the assumption that large profits are to continue indefinitely. The same tendency, of course, has shown itself in many other forms besides industrial consolidations. The point is that in such a time as this there is an inevitable contagion to trade on future prosperity.

What happens next? The men who have released their money from the organized or consolidated factories and shops invest it in other enterprises. In other words, they "fix" it—make it fast. It ceases to be "liquid" capital. It takes forms that could not be turned into cash quickly. Then those who hold the stocks and bonds of industrial organizations use them as collateral for loans to carry on business or speculation or pleasure, as they choose. Most of this borrowed money also goes into "fixed" investments in a prosperous time.

In this way the property of the ten factories is mortgaged; and the mortgagees (the borrowers on the combination's securities) invest the money mainly in "fixed" ways.

Suppose the real value of these ten factories be $100,000 each. Each could be mortgaged for, let us say, $60,000 at the utmost. But men do not usually mortgage their factories except under the severest pressure so long as they remain "unconsolidated." But as soon as the consolidation of these ten factories takes place, they are valued at (say) $2,000,000 instead of $1,000,000. If they pay seven and a half per cent. on $2,000,000 for a reasonable period their stock and bonds in good time will approach par in the market. They can be used as collateral for the borrowing of sixty per cent. of $2,000,000, or $1,200,000. In other words, these ten factories, which are really worth $1,000,000 and would probably never be mortgaged at all so long as they remained separate and independent, are likely to be used, after they are consolidated, as collateral for more than $1,000,000 of loans. Incorporation, and especially consolidation, almost always lead to the taking of a mortgage on the future.

When this process has been extended far enough, and enough productive enterprises become thus mortgaged, a more or less dangerous state of things follows. The lessening of profits—not to speak of the failure of enterprises—may at any time cause a fall in these securities. A hundred and one things may cause a disturbance. Whenever such a disturbance comes, the banks and other lenders on such collateral must call their loans—or run the risk of loss. Then follows the same thing that follows when a land "boom" reaches its height. Distrust begins, and a collapse or a panic or at least a "stringency" follows. Whatever artificial structure of value has been erected topples. Nor is this the worst; real values also fall.

The more or less regular recurrence of panics, while not inevitable or mysterious, is thus caused by the tendency in human nature to mortgage the future, which becomes too strong to be resisted in times of unusual prosperity. An artificial structure is then likely to be built higher and higher till it collapse. But, given a sound currency and crops of normal or even approximately normal abundance, there is no other reason why serious depressions and panics should be recurrent. The whole matter is one of prudent conduct and of good business foresight—this, and nothing more.

It would be an immense gain if, as the

New Year begins with our prosperity still running high, every man of affairs would bring the matter home to himself, would examine carefully to see how far he has built on an artificial or possibly dangerous basis, how far *he* has a part in the gigantic structure of credit and confidence that has been reared these five or six years and whether it be sound as far as *he* can affect it. Individual care and foresight by a large enough number of men of the right kind can prevent the recurrence of serious depression; and there is no good reason why we should have a panic again in the United States for as long a period as men can foresee.

It is a magnificent and impressive thing—this vast structure of confidence and credit that now exists in our world of finance and commerce. Almost all productive industry is making large earnings. There never were such large dividend payments before. So nearly universal is practical success that every man and every corporation that has not been convicted of dishonesty has better credit than ever before.

But the basis of it all is not real values, great as real values are. The basis of it is credit, is confidence. If this be shaken to the slightest extent trouble will follow. The continuance of prosperity, then, depends on the individual character of every man of financial or commercial importance. If every such man keep his credit within safe distance of his real values we shall go on indefinitely as a prosperous people, and prove by a happy experience that panics are not bound to come.

Such is the obvious general principle of danger, of temptation and of prevention.

Let us see in a general way if facts now warrant fear.

As regards the solidity of our actual recent growth in wealth there is no doubt. Nothing like it was ever before seen in the world. The output of iron and steel, for example, increased eight million tons during the last five years—as much as it gained in the preceding quarter of a century. The enormous increase in railroad traffic and earnings and of dividend payments every half-year, the growth of our export trade in manufactures—all these substantial facts have been presented and explained over and over again in this magazine. It is a substantial basis of prosperity. Most of this phenomenal growth is solid and most of it is permanent. More than that, it will go on. Our commercial "invasion" of other countries has only begun, if we are wise. Nor are the opportunities of expanding domestic trade by any means all used. We have created real values.

As regards the danger—we have built up speculative values also, and we are using money faster than we are making it—at least in the prodigious development of industrial enterprises. We are mortgaging those that we have in order to build others. The whole question is whether we are doing this at too rapid a rate. The enormous increase of bank loans and discounts tells the story.

Now as to prevention—the general apprehension of danger is perhaps the best preventive of disaster, if it lead to conservative action soon enough. There are many evidences that such conservative action is being taken in time. The banks are gradually lessening their loans. They are lending smaller sums on those industrial securities that are known to be watered. Another very strong conservative force is the ever increasing unification of the commercial and especially the financial world. When one important institution encounters danger, the others quickly come to the rescue, so that no panic may ensue. This unification of interest and action is becoming in effect an insurance against fright. It supplies the one thing needed to prevent disaster from spreading by sheer contagion from cases of merely personal mismanagement or misfortune.

But the greatest preventive force of all is individual—the extent or degree to which every man of affairs regards the financial and commercial community as a thing in his own keeping, and looks upon himself as personally responsible for so much of it as he touches or can affect. It is at last a matter of character.

The time will come, and surely we ought already to have reached such a stage of commercial civilization, when every man will have a feeling of responsibility to the business community—will have a commercial conscience which will forbid his doing danger to the great fabric of credit upon which the modern commercial world rests.

FRIEDRICH ALFRED KRUPP

THE funeral procession of the great German ironmaster, Krupp, the other day wound out of a small, dingy, smoke-stained cottage at Essen. The Emperor with his suite followed bareheaded among the chief mourners. Many of the most noted men of the empire were there. The man they bore to his last rest was the third head of the firm of Friedrich Krupp, and the small cottage whence the long and brilliant train of sorrowers started was the humble cradle of this world-renowned house.

Nearly a century ago—in 1810—the firm was founded with very small capital, during the dreariest days of Germany's political debasement, when Napoleon's eagles flew wide and unhindered. In this little frame building, with barely space enough for him and his large family, the founder of the firm in 1826 died of a broken heart, at the early age of thirty-nine, leaving his business affairs in an embarrassed condition. But his eldest son, Alfred, a precocious boy endowed with indomitable energy, with the consent of his mother became at once the active head of the firm. He was then just fourteen. In 1873 Alfred Krupp, having achieved meanwhile a measure of business success such as had never before fallen to any man in Germany, affixed a small and modestly worded tablet to the door of this low-eaved cottage, and declared that it should stand as a memento of his family's humble origin and as a warning to his descendants' pride.

In 1887 Alfred Krupp died. He was a born leader of men, and with matchless pluck, strong common sense, thorough and practical acquaintance with the manufacture of steel and iron in all branches, he coupled a wonderful resourcefulness and a combative and domineering spirit. He left his son, Friedrich Alfred, the sole owner of the huge enterprise, which even then was composed of many and diverse branches.

Friedrich Alfred Krupp, the third head of the firm, who recently died, was born on February 17, 1854, and he was a man of entirely different fiber.

There was nothing aggressive in his nature. On the contrary, he was of a mild and amiable disposition. He disliked publicity and the bustle and clamor of public life. He left an estate valued at $150,000,000, and enjoyed the largest income in Germany. Wealth and the power that great wealth brings were at his command. At his palatial estate, the Villa Hugel, near Essen, he dispensed on many occasions more than royal hospitality, and he associated with monarchs on terms of intimacy. Yet he was never a happy man, and his career, which was determined by an inheritance whose responsibilities he could not shirk, was not the career that he would have chosen if he had been free to choose. The Emperor of Germany was his intimate friend, and to him he once said: "This big fortune has been a curse to me. If I had not had it my predilections would have been for art and literature."

He had great natural talent and a sound and well-trained taste. He was a generous but judicious patron of art. His admirable collection of paintings in Villa Hugel, which comprises none but masterpieces, and his fine aggregation of *objets de vertu*, attest this. During conversation he would often dwell regretfully on the fact that the responsibilities of his position left him no choice in life; he cordially disliked pomp and circumstance, affectation and insincerity. He married a lady of rank, Margaret Baroness von Ende, and the match was a love match. He, like his father before him, scorned all titles and distinctions, except those that came to him in the way of business. He preferred to remain plain Herr Krupp. He entertained his friend, the Kaiser, many times and (just to name a few others) the Emperor Francis Joseph of Austria, King Edward VII. when he was Prince of Wales, King Carlos of Portugal and King Leopold of Belgium; but his manner toward them was never tinged with that obsequiousness to which monarchs are accustomed. With them, as with his workmen, he was always unaffected and unassuming.

He was a man of fine feelings, of a lofty nature and of thorough and wide culture. His education had been most comprehensive. He went through the usual eight years' course

at the public "gymnasium" (or lower college) in Essen, then studied at several of the best German universities, and was afterward appointed *Commercienrath* (Counselor of Commerce), later on *Wirklicher Geheimer Rath* (or Privy Counselor of the Crown), and was made a member of the Prussian *Staatsrath* (Council of State). In 1893 he was elected to the Reichstag, and was likewise elected to the Prussian Diet.

He was a bitter foe of Socialism. During one of his few Reichstag speeches he fiercely attacked that party, saying among other things: "It is the business of the Socialists to stir up strife between employers and employees—right or wrong, with or without reason. The Socialist leaders and agitators hate no one so much as the large employer who tries, so far as in him lies, to be just, kind and sympathetic to his men, for that robs their arguments of power and relegates them where they belong—to oblivion." The Socialists never forgave him this. Indeed, there was war to the knife between him and them from the time he succeeded his father, and he would tolerate no Socialists, especially no Socialist agitation or literature, in his wide domain.

He took a deep and steady interest in the welfare of his employees, high and low alike; and, though he did not very often meet them personally, through his counselors and chiefs of departments he kept himself always accurately and closely informed about every detail that entered into the life of even the humblest of them. The unbroken chain of benefits with which he loaded his vast army of men—benefits running into many millions and comprising everything that thoughtful and wisely directed kindness could suggest—are uncontestable proof of this. He went, in fact, much further than his father ever did. To mention just one particular, he has made it possible for his employees to build and own comfortable homes of their own, the number of such houses (in every instance including land for gardens and fruit trees) amounting at present to several thousand in Essen alone.

Friedrich Alfred Krupp possessed the great gift of choosing able men for his assistants, and of not interfering with them except in case of necessity. Of the most competent and original-minded of them he formed his "cabinet." This Board of Directors numbered fourteen members at the time of his death, of which twelve are in Essen and one each is in Magdeburg and Kiel. He made it the interest of these able men to serve him well, for, like Mr. Carnegie, he paid them not only large and increasing salaries, but admitted them to a share of the profits in those particular enterprises over which they exerted control. It was largely owing to this far-sighted and shrewd policy that the firm prospered after 1887 at an even more rapid rate than during his father's long management. Within the fifteen years of Friedrich Krupp's control the business of the firm was more than doubled, its capacity was trebled, its enterprises were multiplied, and its profits accumulated so that the total property now owned by the firm of Friedrich Krupp is valued at twice as much as at his father's death. More than 150,000 persons are dependent upon the Krupp enterprises for their bread, and of these 43,083 are men. Since the father's death the son introduced smokeless powder, and ordnance for the same; began the manufacture of armor-plate (now one of the most important branches of the firm's work); he purchased the gigantic Gruson Works near Magdeburg, the specialty of which is the manufacture of turrets; he purchased and immensely enlarged the Germania Shipyards in Kiel and elsewhere; and he made practicable a number of the most important inventions in the making of steel tools, implements, ships, guns, etc.

W. Whitwell, President of the English Iron and Steel Institute, in conferring the golden Bessemer medal this year upon Friedrich Alfred Krupp, paid a glowing tribute to his skill and far-sighted wisdom as shown in the singularly successful management of the works.

Without being an enthusiast as a manufacturer, as his father had been, the son's wider horizon had doubtless much to do with the phenomenal growth of the firm under his leadership. During a visit paid the Essen Works a number of years ago, I had the pleasure of a conversation with him in which he spoke about the industrial development of the United States in a manner which showed him little less than a prophet. His remarks then came particularly true as regards that branch of trade with which the great ironmaster was most familiar, viz., the production and utilization of iron and steel. And a year before, at the Chicago World's

Fair, Herr Krupp had already proved by the quality, size and arrangement of his special exhibit what an immense importance he attached to this market and its coming competition.

He had some peculiarities. For one thing, he hated to be spoken of as the "Gun King." Small wonder, for whatever the firm may have been in his father's time, it now owns a series of great enterprises of which more than seventy per cent. of the total values produced are other things than guns and ammunition—things like railroad and ship implements that work for peaceful ends. He was a foe to war, a thorough man of peace. He led a spotless and tender family life, and was a most devoted and indulgent husband and father. He leaves no sons, but two daughters, Barbara and Bertha, survive him. The management of the firm will devolve upon his nephew, who has been very active in it for a number of years. In demeanor he was singularly gentle, almost shy, and this was probably, at least in part, due to the fact that he never enjoyed robust health. His digestion was weak, and he was debarred from most of the pleasures of the table. At the grand banquets he used to give he contented himself with Apollinaris water, and he rarely was allowed a cigar or cigarette by his physician. For several years past, too, he had been under constant medical treatment because of a nervous depression. This, with some organic troubles that came to torment him, made the last five or six years of his life a burden rather than a pleasure. His failing health was generally understood and discussed in Essen for years; but it is probable that but for the savage attack upon him by the Socialist press his life would have been prolonged. He was one of the greatest captains of industry that modern conditions have produced.

MODERN METHODS OF SAVING SHIPS

HOW NEW INVENTIONS HAVE SIMPLIFIED AND MADE SUCCESSFUL MANY A WRECKING OPERATION — OLD METHODS CONTRASTED WITH THE NEW — STRIKING STORIES OF WRECKS—HOW THE SHIPS WERE SAVED

BY

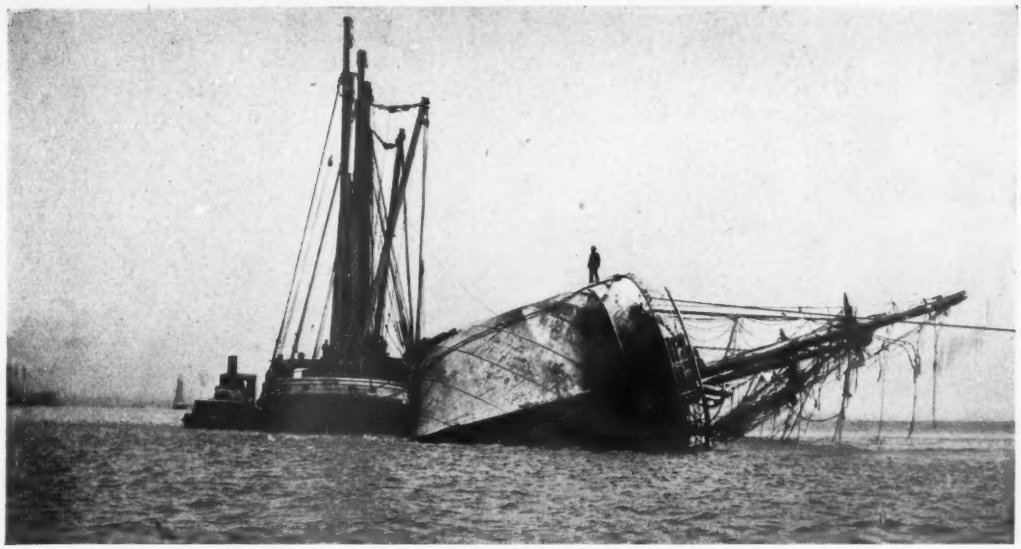
MORGAN ROBERTSON

(AUTHOR OF "MASTERS OF MEN," ETC.)

A BRIGHT lantern, elevated above the water at the end of a long pole, and given a slow right and left movement across the wind, would look on a dark night very much like the riding light of a craft rolling at anchor; and strange vessels, seeking port and good holding ground, would head toward the light. When they struck the bottom and became, under the law of custom and precedent, "wrecked," they became the perquisites of the discoverers —always the men that manipulated the lantern—stout-hearted, strong-limbed fellows, able to enforce their rights against the protests of misguided mariners.

That was old-time wrecking. Today it is a business that requires integrity and ability, big central offices with long-distance telephones, big tugs and towlines, and a complete equipment of diving apparatus, pumps, pontoons and derricks, with a force of men trained for years in this peculiar work.

On the Florida Reef, it is true, every fisherman, sponger, or beachcomber—"conches," they are called—who owns or can lease a boat of any size, takes out a wrecker's license. Let a vessel but strike a reef and up will come the wreckers by the dozen to wait in a circle, like vultures, while the anxious officers and men strive. Not a conch among them can be prevailed upon to work, even at the highest wage. When hope is given up—when, with a gale coming on, the sore-hearted captain decides to abandon, and save the lives of his crew, no sooner does his boat leave the side than there is a rush of the wreckers; and



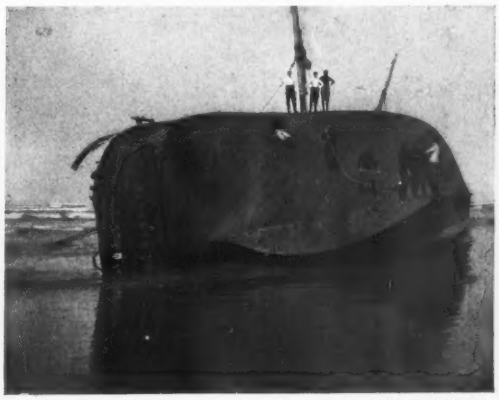
THE WRECK OF THE *BLAIRMORE*
Pushed into shallow water after coming to the surface in San Francisco Harbor

the first one aboard has the legal right to salve the ship and cargo.

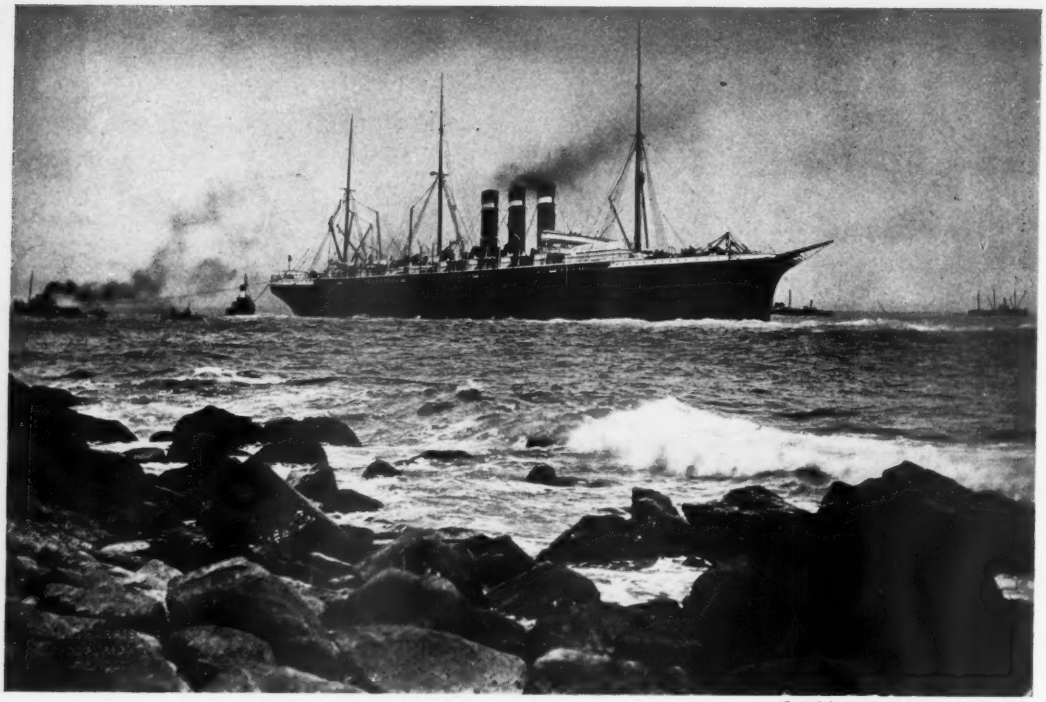
If these simple-minded people would combine instead of competing, many a ship and cargo could be saved to the owners or underwriters and their ultimate reward would be heavier; for the "chance of loot" is little compared with the certainty of salvage. So certain and so generous is this salvage that wreckers of larger growth and knowledge of law—the wrecking companies of the seaports—on learning that a ship is in trouble will rush their tugs and equipment to the spot, and labor, often against the wishes of the ship's officers, who may think they need no help. But a bargain is made if possible for a sum greater than would be the award of the courts, and this, if contested later, need only give way to the always certain salvage. The wrecking companies also respect the unwritten law of the craft, and the first tug to get a line to a stranded ship, or an anchor down near a sunken craft, has first rights.

Wrecking has two distinct phases—the pulling of stranded craft from the beach and the raising of sunken craft from the bottom. Another and new method, the salving of cargoes with submarine boats, is not generally used, though a modest man named Simon Lake, with a genius for keeping out of print and a very practical submarine boat of his own invention, has been nosing around under water for the last three or four years and getting rich on his findings. Wrecking has to do with the reclaiming of wrecks, not of cargoes.

When a ship goes ashore she lies broadside on and punches holes in herself or strains her planking, so as to fill with water up to the outside level. If she does not, the divers are saved the work of patching and pumping her; but when they have made her tight, the floating of her is merely a question of a long, strong pull of tug, capstan or windlass. Tugs are tried at first. Six tugs dragged the *Kilbrannan*, ashore on a beach nearly as flat as a floor, into deep water. But in heavier effort, when six tugs, or as many as the ship

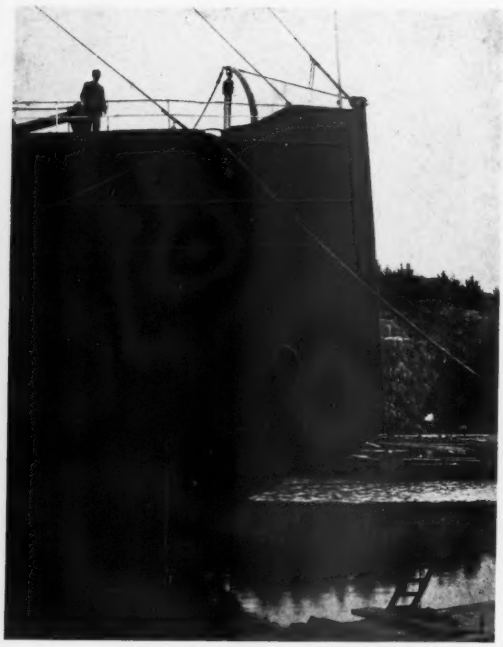


Photographed by Higgins
THE *POTRIMPOS*
Wrecked in the breakers off North Beach, Washington



Copyright by W. M. Harrison, Falmouth

THE STEAMSHIP *PARIS* ON THE ROCKS



Photographed by Maynard

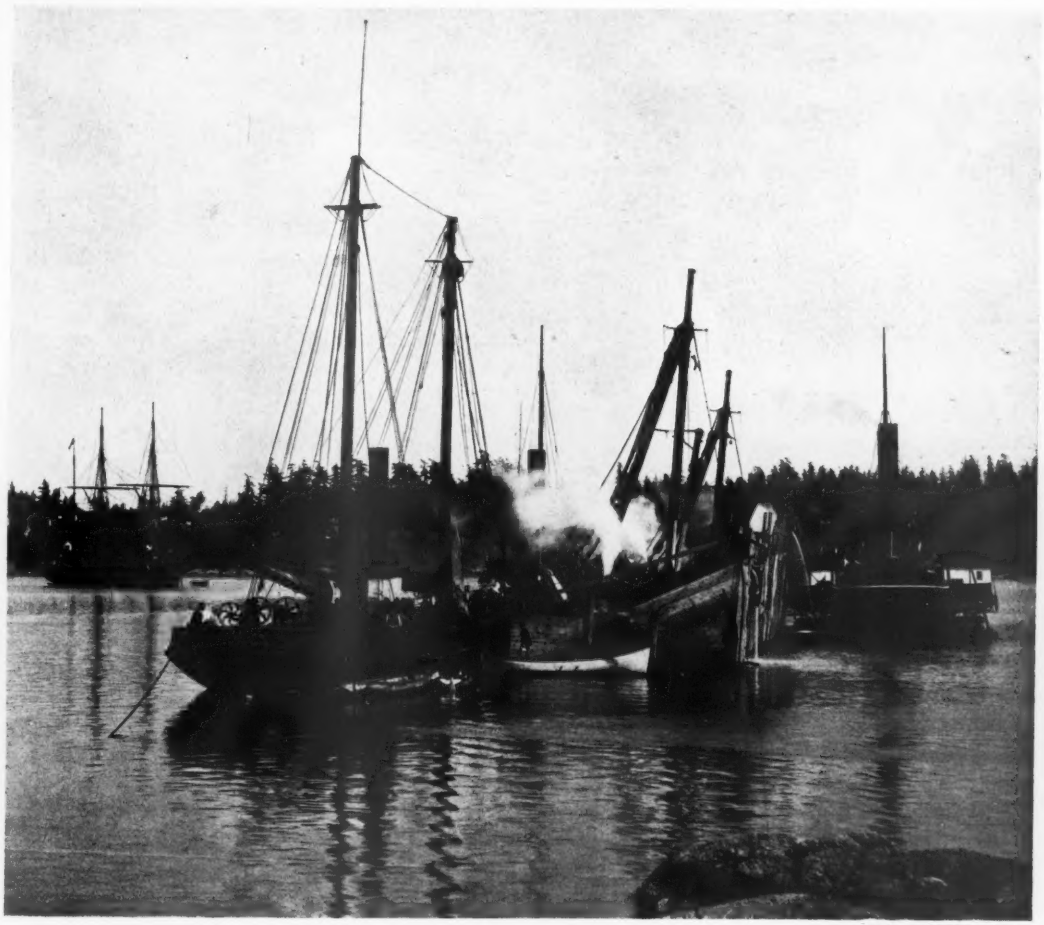
THE BOW OF THE UNFORTUNATE *UMATILLA*, BEACHED IN ESQUIMALT HARBOR, BRITISH COLUMBIA

has bitts and masts to fasten to, cannot pull her afloat, advantage is taken of elasticity and buoyancy. There is a trick known to teamsters and horsemen, on which bets and reputations for strength have been won, which illustrates this. A moderately strong man may brace his chest against a tree and, extending his arms at full length, grasp the whiffletree of a team of horses. Provided that his grip is not loosened by the first plunge of the animals, they may tug with all their strength and not tear that whiffletree from his hands; but, if the whiffletree be extended at the end of a long, elastic rope, they could not only drag his arms from their sockets, but might pull the tree down if his arms and his grip and the rope were strong enough. A tug may not be able to drag a heavy weight from a dock if it is attached by a chain, but if a long hawser be substituted the tug stores up in it the momentum of her mass during the time she is stretching it, and this, acting with her undiminished pull at the moment the stretching ceases, will jerk the weight into the air. In this way the ponderous ship is dragged down the sand toward deeper water; and it matters little at which end of the elastic cable the power is applied. In the

case of a large craft—a steamer, for instance, thrown high on the beach and imbedded in the sand, too heavy a drag for tugs and tow-lines—four large anchors, each nearly four tons in weight, will be carried out and dropped with cables of 200 fathoms' length and fifteen inch circumference leading in to the ship. Four powerful tugs might drag on these four cables until they parted, or a strain could be put upon them from the ship that would part them or drag the anchors home, without budging the wreck an inch. The fifteen-inch cables must be tautened, at first with capstans and winches, then by tackles and luffs. The power that can be gained is enormous—sufficient to tear out the sides of the ship. But the cables must be considered; their elasticity, which is about thirty feet to the 200 fathoms, must not be destroyed. But

Photographed by McCurdy

THE SCHOONER *MINNIE E. CAINE* ASHORE
On Smith Island, Washington



Photographed by Maynard

WRECKERS RAISING THE *UMATILLA*
Showing the cofferdam at work

Photographed by Fisher

SHIP *KILBRANNAN* ASHORE IN PUGET SOUND

if they are tautened to moderately near a straight line the wreckers may wait for the aid of the sea.

If the ship has gone on at low tide, moderate waves and a high tide will suffice to lift her, but if at high tide, nothing but a storm nearly as severe as that which threw her ashore will furnish seas heavy enough; and often the wreckers must wait for the spring tides.

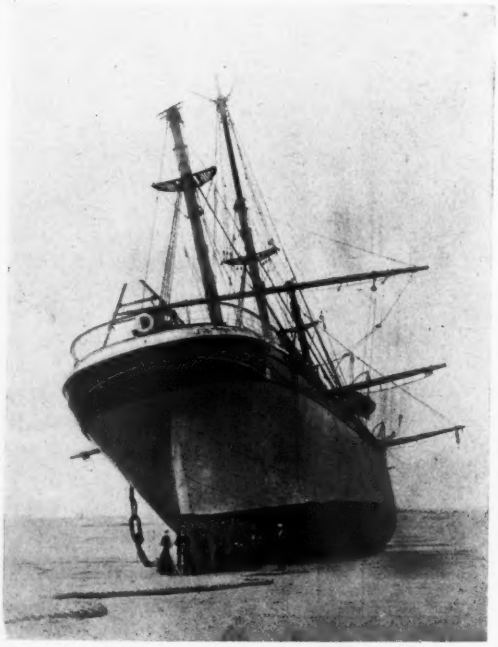
A sea that will lift a stranded ship will first break over her, and when at last she quivers and "goes to the cables," she comes down with a shock that seems to start every spike and bolt in her framework. But after each jump seaward the cables are tautened, and little by little—it may take two, three or a dozen tides—the ship hitches down toward deep water until she floats. An experience on the beach ages a craft more than a score of storms at sea; every plank and frame has been twisted a little; every bolt and spike is looser. And in an iron ship no one can tell how many rivets are half sheared through.

Sometimes a ship can be pushed instead of pulled into deep water. This operation occurred in the case of the big four-masted schooner *Minnie E. Caine*, ashore on the precipitous beach of Smith Island. A row of hydraulic jacks arranged along her side moved her the short distance necessary to float her.

A craft caught in a quicksand is usually a total loss, though a coffer-dam sometimes saves her.

"RESURRECTED"

A vessel coming to the surface after being pumped out by wreckers



Photographed by Holmes

A SHIP ASHORE ON NORTH BEACH

If a tight ship gets into the grip of a quicksand it will be sucked down until solid bottom is reached or the quicksand solidifies; and inertia and friction will hold it there. A quicksand wrecked the big ship *Glenmorag*, which ran ashore near the mouth of the Columbia River in the winter of 1896–97. The wreckers pulled her off, but carelessly allowed her to touch a soft spot, and she is there now.

It is often necessary to lighten a ship of cargo and ballast in order to float her, and this brings an additional danger: she may

THE SHIP *BLAIRMORE* BEING RAISED

capsize when water-borne. The German bark, *Potrimpos*, which grounded at high tide near where the *Glenmorag* piled up, and which made much work for the wreckers thereby, undid the whole by toppling over immediately the support of the sand was taken from her.

ICE-BOUND
The wrecking operations on the *Minnie E. Caine* hindered by the freezing of the apparatus

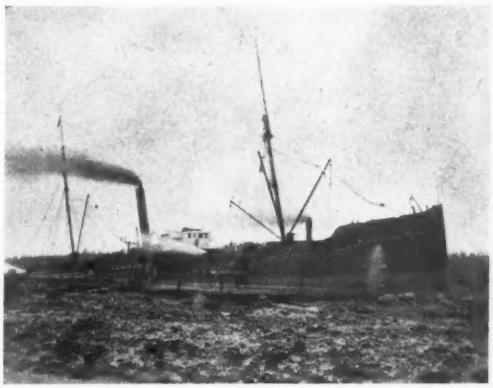
She filled and sank in the surf. Yet there was not a leak in her.

No method of raising sunken craft is of use for a depth greater than twenty-five fathoms —the limit of diving operations. Within this limit a small craft can be lifted, cargo and all, by a derrick scow until her deck openings are out of water; then she can be patched by the divers and pumped out on the spot; or, half submerged, she may be towed in her slings to a drydock and there repaired. But a big craft is too heavy to lift with derricks. Pontoons are employed in most cases, though when a ship can be patched and sealed up by the divers, and wind, tide and sea are easy and favorable, she may be raised

by her own buoyancy. The English ship *Blairmore*, which capsized and sank in San Francisco harbor, was raised in this manner. She came up on her side and was righted later by skilful grounding.

One successful trick in the trade, when the craft is not too large, and when the deck can be sealed but not the leak in the bottom, is to pump in compressed air, which, of course, forces the water out. But a craft rising from the bottom of her own volition is apt to be erratic in her movements; she may turn over as she comes, or may come like a bubble and upset the helpful wrecking craft above her.

But, all in all, pontoons are the main reliance of wreckers in raising sunken craft. They are strongly built, scowlike hulks, submergible, with pumps to empty them, and wells from the deck down into which lead the heavy chains by which wrecks are lifted. Two pontoons at least are required, and the chains pass down the wells of one, under the bottom of the wreck, and up through the wells of the other. They are tautened at low tide, with the pontoons full of water, and made fast. Then, from the rising of the tide and the lifting power of the

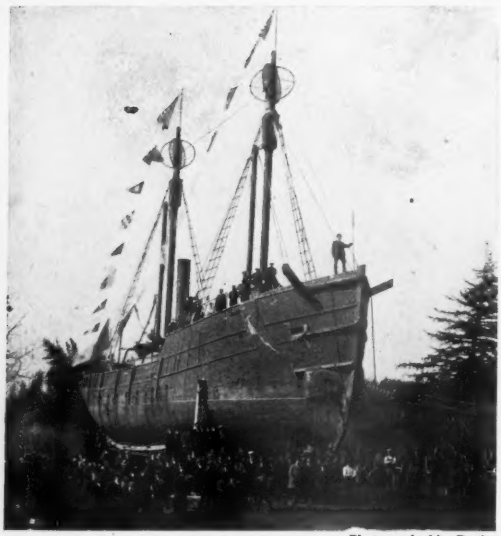


STEAMSHIP *WILLIAMETTE* ASHORE AT UNION, BRITISH COLUMBIA

Its bow was lifted from the ledge by logs running through the hull and resting upon scows

Photographed by Gleason

DIVERS AT WORK PATCHING THE HULL OF A VESSEL



Photographed by Davies

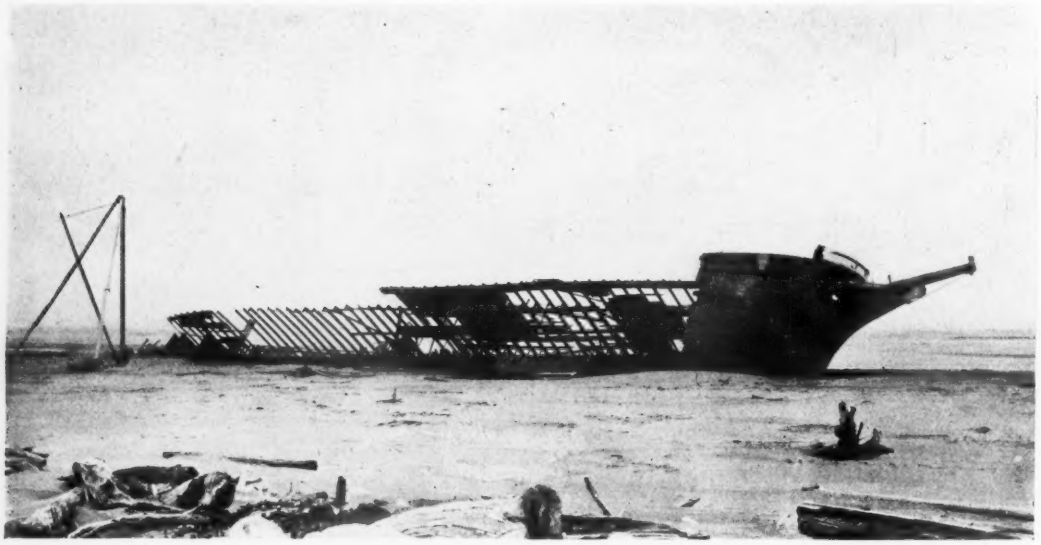
COLUMBIA RIVER LIGHTSHIP EN ROUTE FROM PACIFIC OCEAN TO BAKER'S BAY

The ship was taken about a mile through the woods

pontoons as the water is pumped out, the wreck leaves the bottom. At high tide, and with the pontoons empty of water, it is towed into shallower water until it grounds; then with the going down of the tide the pontoons are again flooded, the slack of the chains taken up, and the operation is repeated. By and by the receding tide will expose the leak or bring it within reach, and when it is plugged or patched the wreck may float of its own buoyancy. But it requires months of hard work. Pumps may break down, pontoons leak, chains part, anchors drag, or drifting and unmanageable craft may crash into the outfit at the last moment and the work of weeks must be done over again.

Where the tides are high, as they are in English and Canadian waters, pontoons need not be emptied and pumped out. They are merely an aid to the lifting power of an ordinary tide such as runs in New York harbor, and a good substitute where there is no tide at all. The Thames Conservancy, the largest wrecking company in London, seldom needs submergible pontoons—"camels," as they are called over there—and on the Great Lakes the pontoons are large and deep, sufficiently so to lift a wreck to the surface. And as shelving beaches are scarce in these waters, a wreck is usually patched and pumped out while slung in the chains.

The wrecker's life is full of danger and daring, with rush of storms and high tides, with the blow of the salt sea in his face, trusting his life to swaying ropes and the worn windlass, and through it all governing and mastering the sea. His work, in its application of modern invention, is a new evidence of growing human control over natural forces.



Photographed by F. H. Canaris

THE LAST STAGE—DISMANTLING AN OBSTINATE WRECK

Glenmorag on the beach near the mouth of the Columbia River

THE BIOGRAPHY OF AN OFFICE BUILDING

HOW THE TYPICAL AMERICAN SKY-SCRAPER IS DEVELOPED FROM THE SIGNING OF THE CONTRACT UNTIL THE BUILDING'S COMPLETION

BY

ARTHUR GOODRICH

Illustrated in part from photographs loaned by Clinton & Russell

ABOUT the time that a foreign traveler remarked that New York was beginning to look like a burying-ground that was all headstones, and a quick-witted American retorted: "Fifteen-story headstones that mark the decay of European supremacy," the directors of a well-to-do company which owned land in the centre of the business district in New York held their annual meeting. The solid old four-story building that had covered the site for half a century was scarcely paying for itself. The land had increased enormously in value, and taxes and general expenses had grown in proportion. Business firms were clamoring for office room, and there was a large space between the plot of ground and the sky if it were only enclosed. Within a few weeks the company selected architects to enclose it as high as nineteen stories. And so began the construction of another of these great automatic machines of modern business through which, day after day, thousands of human beings are hurried, leaving a product that scatters to the ends of the earth and helps to feed, clothe, carry, inspire, ruin, and bring justice to hundreds of thousands in its track—a versatile but inexorable force over which its makers have no control.

It was made much as any other automatic machine is made, a machine built on a model that has already been used a hundred times, nearly every part of which merely carries out an old formula. The only variation is made to meet some difference in the ground on which it is set or some particular

AFTER THE OLD BUILDING HAS BEEN CLEARED AWAY

Two derricks already at work

SINKING THE PNEUMATIC CAISSONS

Into the midst of the quicksand to the solid rock

THE FRAMEWORK BEGINNING TO RISE

product it will evolve. A Frenchman who looked twice within two months from the top of one of these buildings at the bare skeletons of steel that rose on every side, said in wonder:

"You build these high buildings more rapidly than we build cottages of wood."

He saw only the putting together of the structures—their physical erection. They were built months before in brightly lighted offices in buildings almost identical with them.

This building, the architects and contractors found, presented its individual difficulties. sons were therefore decided upon, the number of them was settled and the exact spot where each was to be sunk and their probable depth, and the time to be allowed for their completion was estimated, all with the aid of a foundation specialist, a man who builds downward only.

This done, the building began to rise on paper, an enormous puzzle of interwoven lines and numerals and hieroglyphics worked out on many broad drawing-boards. Each floor as it was completed and checked was

WORKING ON THE EDGES OF THINGS

Putting together the office-building framework

The ground upon which the old brick structure stood was, as one of the engineers epigrammatically remarked, "just as near being quicksand as it could be without being," a running, unsteady foundation for any heavy load. New York is founded on a rock, but in many places this foundation of the island is far down below the surface. Nothing but the rock itself, however, would be sure to hold the hundreds upon hundreds of tons of the building and its contents. Pneumatic caisfiled away in a small oaken case. Meanwhile the great machine with its innumerable posts and cogs and shafts was rising as clearly in the brain of its master mechanic, the engineer, as if he already saw it standing straight and clean in the heavens, silently grinding its human atoms at the speed they themselves had set for it.

In only one way did this building differ materially in the making from many of its predecessors. From the nearest of the cais-

sons which were to bear the great weight the wall of the adjoining building was distant more than three feet. To gain a support for that edge of the structure steel girders were planned which ran obliquely from the nearest caisson up to the outer framework of the ground floor. These, with the cross-girders of the floor and the broad, upright steel beams,

THE DERRICK
Which lifts the great weights of beams and girders

formed triangles by which the load was distributed to the caissons. Except for this, the structure was merely a skeleton of steel beams and girders mounting upward with unvarying progression until the topmost framework was in place.

Long before the first squad of workmen was sent against the old building, every piece of steel and all the stone and brick that was to cover the frame was planned and ordered. Each specific beam was marked for its place and for the exact position it was to occupy; each hole for rivet or bolt was located, each stone was measured for its final resting place. The machine was built before a part was made, before the ground was cleared for action, before the great rushing public that, only a few doors away, was settling values for the republic, and which surged past and through the old building day after day, knew that the transformation was to come. It was like the plan by its leaders of an army campaign in which there was to be no opposition and no chance of failure. The campaign was made in the commander's tent before the men marched.

So the building went out on paper through the mails to mills where the furnaces glow with the heat of seventy times seven, and clashing machines mold and form and punch the heavy steel, and creaking overhead trolleys carry its great weight, while men, obscured by the mighty forces they have created, direct them; to quarries where power drills loosen granite boulders and derricks lift them upon cars which carry them away to be shaped; to yards where hot ovens bake brick for the body of wall and terra cotta for the outer shell and the floors. And when it returned it came like a well-formed army of steel and stone; so many parts today, so many tomorrow, enough for each day's work, and every piece minutely ready to take its place in the structure.

In a little more than a month after the first workmen were turned loose on the old building it was gone. Two heavy derricks lifted the weights and its four stories were soon carted away. Then began the sinking of the forty-one caisson shells, and the foundations were dug down fifty feet to the solid rock. As the digging went deeper and deeper, the sandy ground would have caved in and would have run if additional air pressure had not been crowded down upon it to hold it in place. One of the new men coming, tired, out of the caisson where he had been working under the additional weight of air, remarked to another going in to take his place:

"It's aisy for you down there. You're so small there ain't much pressure on ye."

And when the other tried to explain, and did so by telling him that, in the open, there was always fifteen pounds pressure to the

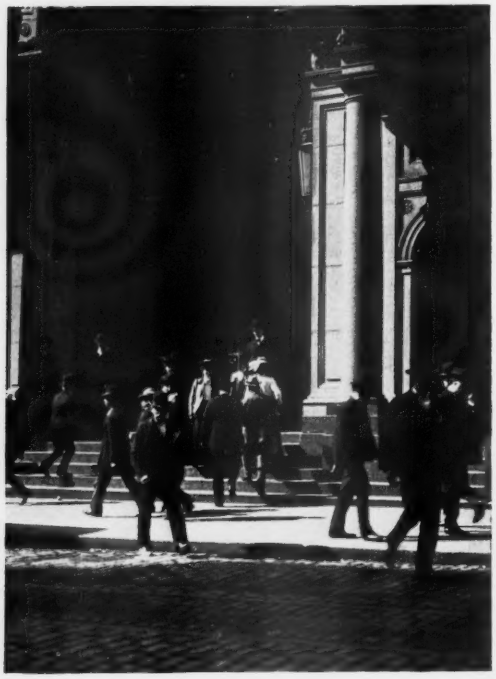
THE STEEL SKELETON TAKING SHAPE

After the first stories are outlined

BUILDING FROM THE TOP DOWNWARD

Showing the central stories built upon the mere framework, while the upper stories are still uncompleted

THE OFFICE BUILDING COMPLETED



AT THE ENTRANCE

THE CROWD ON THE STREET

square inch, he scratched his head and said thoughtfully:

"Is that so, now? That must be how it's so hard to work. It ain't decent for an Irishman to work continuously under pressure. Let's strike."

From the rock foundation up they filled the caissons with concrete and capped each with a broad square of granite. This had, in all, taken two months. The floor was ready for the great machine.

Half a regiment of men—men of many races and creeds—met the first load from the

THE TYPICAL CIGAR STORE

rolling-mill, and the upward march of construction began. Steam-engines began to puff and sigh as they lifted the big girders up to where workmen caught them and riveted them into place. Gangs of men, each under a foreman, rushed enormous chiseled boulders across the rough flooring other gangs had laid, and still others, as the building progressed, laboriously swung loads of wood up the elevator shaft. With the increasing floors derricks were rushed upward to support the work of the men. Individual deeds of daring were done on the frontier floors as they

pushed up two stories at a time. Men, perched at the top of protruding beams in the track of the cold wind, caught and fastened the great shafts of steel that might either crush them or send them hurtling off into space. Others, in pairs, were swung upward at the end of long hawsers, and still others, in pairs, walked the narrow girders of the top stories, each carrying the end of a bit of temporary flooring. Back of these, full companies labored less spectacularly, carrying hods to the hoist, distributing material, laying the enclosing wall or the floor of hollow terra-cotta and cement, handling the engines and the derricks, tending the campfires on each floor from which the glowing rivets made certain the ground already gained; all marching steadily upward as if, the earth having been conquered, they were storming the heavens.

All this grim, noisy, effective activity was under the control of a workman who had risen from the ranks. Some Italians were here carrying hods for him who had worked beside him years before. He knew the plans of the construction to a detail, but rather as a man who follows than as one who creates. It was his duty merely to direct the distribution of material so that it would be easiest at hand, and to get the work done. To him delays were fatal; speed and care the end of existence. Once when the framework stood ready for the wall which was to close it in, he found that the brick and stone for the walls of the lower stories had not been delivered. He reported his difficulty to the engineers.

"You have the material for the upper floor walls?" they asked.

"Yes," he said.

"Then finish those first."

And so he set his men at work building apparently from the top downward, for in these steel buildings the framework carries the entire load; the brick and stone merely close in the building and decorate its exterior, and each floor carries its own load. Thus the subordinate officer carried out the mechanical plan quietly. He overheard

LOOKING DOWN AN OFFICE-BUILDING CANYON TO THE COMPLETED STRUCTURE

IN THE OFFICE-BUILDING DISTRICT, NEW YORK

In irregular lines, the high buildings rise like fortresses

one of the younger workmen answer questions from a bystander with a blank "I don't know." And he promoted the boy because, as he told him, "If you don't tell what you don't know to people who know it all, there isn't any time lost." But he led his men vigorously, holding his subordinates strictly to account for the men under them, and getting the work completed within the specified time.

But back of them all were the men who created the plan. To them each story was a duplicate of one they had already constructed on paper. The army of workmen were merely assembling the parts they had formed Each shaft of steel was located by its number, and the upper or right end was marked so that only stupidity would turn it end for end. An engineer, inspecting the work one day, pointed to a few out of a hundred beams that lay ready to be hoisted into place, which were all exactly alike, and said quickly:

"What are those doing here? They go in the fourth story of the Windsor building."

And at another time, as he casually passed the structure and looked up at the ninth story, he called out to the superintendent that one of the small girders at that height was wrongly set. He knew, because that girder did not coincide with the visualization of the building he had had before his mind for months. To him the superintendent came when material was delayed, when there was some seeming mistake in the filling of an order. To him a walking delegate of one of the unions came, knowing that the building was contracted to be finished at a certain time, and demanded higher wages for the men.

"Is that the limit you will ask for doing the job?" he asked the delegate.

"Yes."

"Will you sign a paper to that effect?"

"Yes."

"All right, they shall have it."

To him the directors of the company which was paying for the construction came with objections and suggestions. Such a firm would take this entire floor if these alterations could be made to fit their needs. All these things must be arranged and carried out. Plasterers and decorators were at work below long before the upper construction was completed; and while the workmen were still laboring at the elementary finishing on some floors, on others the offices were already occupied, the elevators were running regularly and the building was being heated and ventilated and lighted. It was more than a week before the contract time for the building was up—a year from the first breaking of the ground—when the final decorations on the last floor were finished. But when the shell was completed the engineers lost their heartiest interest. There were new constructions awaiting that would tax their skill and care much as this one had.

"In the old buildings," one of them said the other day, "I felt a real interest. E ch had a personality. I've always considered them old friends. These are mathematical problems that are interesting to solve, but once they are done they are forgotten."

The reinforcement of workers which at first aided and in the end superseded the men who had constructed the shell of the building was of many sorts: plasterers, painters, paperhangers, decorators, marble workers, mosaic workers, metal workers, each rushing to complete the task of his predecessor, whose mortar or whose paint was scarcely dry. The swift, smooth-running hydraulic elevators had been churning up and down for a month with more or less regularity. Below, in the cavern around the granite caps to the caissons, the big boilers and bins were installed, with a great wheel like a windmill to fan cool, fresh air to the furnace men. Back of this grimy space ran the exquisitely clean tiled floor of the engine-room, where the great engines swing their thick muscles to drive the elevators; to send air with the aid of sweeping fans—past heated pipes if warm air is needed—into the hundreds of rooms above; to light any or all parts of the structure by electricity, and by their very waste to furnish heat by steam at any degree to the building. Over at one side the refrigerating plant was placed from around the ammonia coils of which chilled water is sent into various parts of each floor. On one of the upper floors ranges and shelves and all the apparatus of the most modern kitchen were set up rapidly for the restaurant. Marble counters over which all manner of interesting everyday things were to be sold fell into line on the street floor, and a big bronze booth for a telegraph company accompanied the many bronze decorations into place. Thousands of dollars' worth of gold and paint and burlap covered plaster that was hardly dry. Smooth marble columns

rose where two months before were open air and débris. Back of the engine-room, resting on the ground, was built a big safe deposit vault, guarded by heavy metal doors with many alarms for the building detectives, by massive gates, by constant attendants, and, below, by the impassable quicksand. A house telephone was installed connecting the various important stations with the complete apartment which was built on the roof for the man in charge of the building. By this means he is able to communicate quickly with any of the half a hundred helpers he has from the cellar to the roof.

In the midst of all this rush of final preparation, the men from the outside who had been already attracted to the offices the building was to offer were examining and deciding and demanding alterations in the suites of rooms. Everything was done to meet their wishes. Whole floors were remodeled until upwards of half a million dollars were spent remodeling the already completed interior. When the last workman on the building had gone and it was in working order, there were two suites unoccupied, and these were rented in a little more than a month.

The population of the building is as varied as that of a town, and it is safe to say that more business is done within its walls than in any town of ten times its one thousand inhabitants. Banking houses handle, behind handsome marble desks, their hundreds of thousands, which go out to mingle with the country's prosperity and develop new projects of industry and ingenuity. Insurance companies pledge their enormous capital to the lives of men in California and Florida, and to the safety of ships rounding the Cape. The tickers in many brokers' offices, over which noisy stock speculators and sober investors touch elbows, click out the news concerning the great mass of world wealth for bits of which thousands daily match their wits and their energies. Lawyers make plans in these rooms that will free the innocent and punish the guilty; and promoters sell South American mines and West African land rights. The offices of a great Western railway system bind the East and the West with bands of steel and commerce, and exporters send goods from New Hampshire mills to the Orient. An energetic man with military carriage, after an hour's conference, is just completing the sale of an important block of land to the proprietors of a great department store, while directly above him an insignificant looking little man, wheeling nervously in his chair, is outlining to confederate capitalists a scheme that will give them control of a big street railway system. At his left, in turn, separated by a thin partition, an engineer is solving the problem of building a fifteen story building on a narrow triangular plot of quicksand in such a way that no disturbances of the soil shall shake the foundations of adjoining structures. Typewriters, rapid fire guns of industry, rattle away in every corner of the floors. Bells, each ringing for a purpose, sound in unmusical confusion on every side. Every landing is an eddy in its swirling crowds that hurry up and down, in and out, throughout the long days.

From the time these men enter their offices in the morning until they go at night, many of them need not leave the building. Messenger boys rush in and out with messages. By telegraph, cable and telephone they can talk with London, San Francisco, or Fiftieth Street, as they wish. Supplies are there, their restaurant is there, their barber, their newspaper, their bank, their insurance company, their own police and detective service, their own fire department, their broker, their lawyer. It is a complete community in itself.

At night the thousands drift away, the engines are quieted, the outer gates are closed, a single elevator runs irregularly. Outside there is the deathlike stillness of a deserted town, and the tread of the policeman on the pavement echoes bleakly down the cavernous streets. Within only the caretaker and a few helpers remain. But the great machine has scarcely time to rest before it is again throbbing away with its entire strength, straining to handle smoothly the masses of hurrying people that crush in upon it. Every day the force it unconsciously, mechanically manufactures reaches further into recesses of unknown lands and increases its grip on world-important affairs. The army of stalwart buildings which is growing up from every corner of the island forms the rampart of American industrial defense, the vanguard of American commercial supremacy. In years to come they may pass one by one and be replaced by others greater than they, but the forces they make today are a part of history.

THE BATTLE-SHIP OF THE FUTURE

HOW NAVAL WARFARE WILL PROBABLY CHANGE—THE INFLUENCE OF THE SUBMARINE BOAT—OFFENSIVE AND DEFENSIVE TACTICS WHICH ARE ALREADY FORESHADOWED

BY

LEWIS NIXON

THERE is one possibility that makes anything like an accurate forecast of the type of war-ship of the future very difficult. This is the chance that there may come at any moment a complete revolution through the discovery of some agent of propulsion that will do away with coal and the steam-engine. At present the stowing of machinery and the carrying of coal in a measure control the construction of our ships. The room occupied by these two all-important elements is enormous and dictates arbitrarily construction along certain lines. Venturing on the future, nothing positive can be laid down, because we do not know how long the present system of fuel and machinery will endure. The use of compressed or liquefied gas, or gas made on board ship in boilers of vessels, is a possible development which will save weight and men and simplify boiler arrangement, even with steam boilers and engines as they are now. The nineteenth century was the age of invention. The human mind today is in a state of intense activity, and is developing by its experience during the century just closed. It is fair to presume that it will bring forth new inventions at a much more rapid rate. At this time, however, there is not in sight anything that would give us even a clue as to what we may expect in the way of a new driving power. Liquid air, compressed air, electricity, gas, or any one of a dozen forces may be developed overnight, so to speak, in a manner that will compel the complete remodeling of our enginery both on land and on sea. Naturally this would bring a type of war-vessel entirely different from what we have at present. But a nation, to be abreast of the times, cannot speculate in future developments. It must take advantage of the best existing conditions and work up to them, if it desires to control at sea. So far we have done this admirably in the new American navy.

For a generation past the creation of a battle-ship has been as conventional as the trimming of a hat. The trimming may be varied here and there and the shape slightly altered, but the frame always remains about the same.

The battle-ship has been of slow growth, and there have been few radical changes. Take the *Ironsides* and the *Monitor* and form a composite of the two on steel brought up to the time of the *Inflexible* in armor and gun and you will be surprised to note the similarity. Yet the two types were twenty years apart. The *Inflexible*, barring modern guns and armor distribution, does not differ greatly from the battle-ship of the present.

Hence it is in the factors going to make up the battle-ship that we must look for the probable changes that will be made in the vessels themselves. As to these factors, naval opinion, in America at least, is radically divided. Pick out five of the brightest officers of the service and ask them whether a battle-ship should have a high freeboard or only enough for seaworthiness; whether she should have turrets at all or only barbettes; whether speed or armament is more important—and it is quite possible that one may get five different opinions. This does not mean that battle-ships are inefficient. They are all good, and the merits of particular factors must be proved in the supreme test of battle. No nation can have too many battle-ships if it aspires to world power.

It has been asserted by eminent constructors that we are approaching an era where armor will be subordinated; that the battle-ship of the future will depend upon speed and quick handling for defensive purposes. Personally, I doubt this very much. I look to see a constant development of armor—an increased rather than a decreased protection. The tendency has been right along to protect more and more, and ulti-

mately, I believe, there will be on a battle-ship no exposed parts where men are stationed. Those who suggested the sacrifice of armor in the interest of speed forgot that the first duty of a battle-ship is not to insure her own safety, but to destroy her opponent. She is essentially a fighting machine.

Battle-ships are like prize-fighters—they go into the ring to fight to a finish, and realize that they must be prepared to take many good blows in return for those that they deal if they want victory. Armor being a measure of endurance, the more a ship carries the better able she is to take blows and the better able to administer punishment at short range—the most effective range. The armor and the gun have so far kept pace with one another very well. The plate can be made thick enough to resist any gun, but today such plate is too heavy to carry; so the gun is perhaps ahead.

From the time that explosive shells first came into use armor became imperative. In the days of solid shot it made no particular difference whether a vessel was pierced or not, unless at the water-line. The shot seldom hit any one inside, and the holes made in the vessel were plugged up with comparative ease. Even chain-shot was not fatal to a sturdy vessel, nor impaired seriously her fighting qualities, but a shell carrying a high explosive is different. If one of these pierces a vessel it practically means destruction to all in the neighborhood where the shell strikes, as well as the danger of fire. Therefore,it is necessary to take protective measures that will explode these shells on the outside, and such protective measures are found only in armor, and even increased armor. If there should come a time when there is discovered a projectile that nothing can resist, or that is so powerful that protection against it would involve armor of such thickness as to make a battle-ship an inert mass, then we may expect to turn from armor and depend upon an overwhelming battery, but at present nothing of the kind is in sight.

However, we are only at the threshold in the matter of explosives. There is certain to come more rapid development along these lines. Also, we may confidently look for a striking advance in the matter of propulsive power to regulate the discharge of shells. Smokeless powder has marked an important step, and is now at a high state of efficiency. It has enabled us to reach a point where we have reasonable control over our projectiles. As investigation progresses we will be able to control this force absolutely. In discussing smokeless powder it is a common error to attribute its value chiefly to its smokeless quality. This is merely an incidental value, except for riflemen; the main value is that in smokeless powder we secure perfect combustion. We are relieved of the necessity of carrying around a great bulk of matter, of which a large percentage is useless, serving merely to darken the atmosphere. The smoke seen in common powder is that part of the substance which remains unconsumed, and is therefore useless. The smoke is made of particles of certain unconsumed ingredients of the powder that float in the air. The idea in powder is to have a substance that shall have powerful propulsive effect at a very low degree of heat.

It is the heat that plays havoc at present with our guns, so that the life of a gun is perhaps seventy-five discharges. At the end of that time the interior of the gun-barrel is all torn and seamed and the weapon is useless. A new form of gun in which practically all the energy of the charge is imparted to the projectile is the ideal after which all inventors are striving at present. Even in the most advanced types much energy is lost. An increased range in our guns is made difficult by the fact that we are handicapped by certain mechanical difficulties that limit the length. When a gun is too long it is impossible to prevent its stretching under the impact of the exploding charge, thereby lessening the effectiveness of aim. This may be overcome by powerful trussing, so that the gun-barrel will be perfectly supported and held rigid, but even then there is a chance of disturbance that will interfere materially with the aim; consequently guns cannot be lengthened indefinitely nor the range indefinitely increased.

In the matter of explosives a good indication of what may be expected in the future are the "thunderbolts," as the Spaniards called them, hurled by the *Vesuvius* against the Cuban fortifications. So far no great range is possible in discharging projectiles of this class. The problem of giving a sufficiently strong impact to insure long flight without exploding the material with which the shell is loaded has not been perfectly met.

But progress along that line is rapid, and in the next war we may be reasonably certain that high explosives will be thrown from powerful guns at long range. Various suggestions have been made that noxious gases may be used in the future for some forms of shells. Humanity will probably not admit the employment of such forms of offensive warfare, but I certainly believe that some form of gas which produces insensibility will be developed as the air-ship comes into use, and perhaps before.

I have no doubt that soon electric influences will be projected and that the metal work of an enemy's guns may be able to transmit shocks to those serving them. The most important factor we have at present to influence the future navy is the submarine boat. It is a peculiarity of this new addition to our fighting force that its influences will be outside itself. By that I mean, that so far as the submarine boat is concerned, it is at the very outset a practically perfect craft. Such changes as will be brought about by its enrolment in the navy will be in the conditions to which it is opposed.

I was challenged some time ago when I said that the submarine boat was less of an experimental vessel than the battle-ship. It seemed an unreasonable proposition to those who had not investigated it, in view of the fact that battle-ships have been afloat for centuries, while a submarine boat has not yet seen its first engagement.

We know that the submarine boat is practically a perfect type of its class, because of the limitations of the field. The submarine boat must be able to go at a fair speed above and below the water. It must dive successfully, and be capable of going in a straight line at a desired depth, and when it fires its torpedo under water it must not lose its longitudinal stability. This is all that has yet been asked of it. The type of submarine boat which we have—the *Holland*—does all these things. Therefore, we are perfectly safe in saying that, unlike battle-ships, the opportunities for extension or development are more limited and less likely to be made.

The problem we are confronting now is to find something that will give us protection against the submarine. At present we have nothing. The only measure that an enemy menaced by one of these boats can take is flight, and battle-ships are not built to run away. Therefore, some of the greatest minds of the day are wrestling with the problem of finding something with which to combat this new form of offense. It has been suggested in some quarters that the bottom of war vessels be heavily armored, but this proposition has met with no favor. It would mean an additional loading down of our ships, which are already carrying as much armor as weight can be spared for. Experts are not wont to view favorably any device that will retard the speed or further cumber our fighting machines.

But whatever the influence of the submarine, I doubt that it will change materially the general type of the battle-ship. There may be deeper double bottoms, more bulkheads and a general increase of honeycomb structure, but the exterior shape will, after all, remain about the same.

One thing certain is that as naval equipment advances there will be a concurrent advance in the relative cost. This is shown conclusively by experience in the past. The expense of firing a hundred rounds from the 13-inch guns of the battle-ship *Massachusetts* in ammunition alone would exceed the entire cost of the old *Constitution* battery in 1812, with ammunition enough thrown in to fight all her batteries. Each one of the 13-inch turrets of the *Massachusetts*, with its two guns and all its actuating gear, costs more money, so far as construction is concerned, than the cost of the old *Constitution* entire, from the time her keel was laid until she bombarded the bashaw's castle at Tripoli. The cost of the whole battery of the *Massachusetts*, including the armor used as gun protection, would have built, armed and equipped ready for battle two 120-gun three-deckers like the old *Pennsylvania;* the cost of the side armor alone of the *Massachusetts* would have built and put in motion the *Hornet* and *Wasp* of our little navy of 1812; and the cost of the *Massachusetts'* machinery would have provided sailing power for our whole naval force at that time.

But while the first cost of the fighting ship is large, it represents a very low rate of national insurance. By a vigorous stand wars are prevented. It is almost impossible to estimate what a war costs in the loss of life, in the destruction of public structures, closing up of channels, cutting of cables, diversions of trade and other losses. Of course, the idea

that the cost of the thing to be desired is not to be counted is all wrong, as nothing should be bought unless it is clearly worth what is paid for it. England, with the most powerful navy in the world, is adding to it constantly, and while we need no such establishment as England, when we see almost every maritime nation adding armored vessels to its navy, a nation as rich as the United States cannot say that it is not able to do likewise. It is an insurance against material loss, as well as against loss of national prestige, and the best guarantee of peace.

The development of our new colonial policy will greatly influence the navy of the United States, in regard to both numbers and types. In this swift-moving age, subjugation and even assimilation of new ideas of government can be accomplished in years instead of decades and generations as formerly; hence our colonial policy is sure to be of much quicker growth than has been that of other nations, where the government, being less responsive to the wishes of the people, can carry on abuses and mistakes in a way that our people will not tolerate.

We have entered into active competition for the world's markets, and we have to face a severe commercial rivalry with other nations. This condition enormously increases the chances of war. Its bearing will be direct and specific in developing both the type and the character of the navy. The ocean is for us now no longer a mere geographical division, but a connecting highway, the control of which means world-wide power and boundless wealth. The navies of the twentieth century will write its history.

A TOWN MADE IDLE BY A TRUST

HOW NEW HARTFORD, CONNECTICUT, SEEMED TO BE BLIGHTED WHEN A TRUST MOVED ITS COTTON MILLS SOUTH—IN A FEW DAYS THE OPERATIVES WERE AT WORK AGAIN ELSEWHERE—THE TOWN RECOVERING

BY

FRANKLIN MATTHEWS

ONE of the great evils in the operation of industrial combinations, from the point of view of the wage-earner, is their power to scatter a community to the four winds or starve its people into submission to the demands of capital. It has been pointed out that perhaps one man or a small group of men, by the mere act of signing an order to close up a plant, could exercise a power of life or death over thousands of human beings. Something akin to this happened in the beautiful New England village of New Hartford, Connecticut, last August and September, when the comparatively large cotton duck mills of the Greenwoods Company of that place were ordered closed by the so-called Cotton Duck Trust, the Mount Vernon-Woodberry Cotton Duck Corporation. Nearly one thousand persons of the 2,300 in the place were compelled to leave the town. Nearly a hundred houses were boarded up and rents were offered free to the mill hands who remained, for some men who had worked thirty, forty or even fifty years in the plant were too old to get work elsewhere.

With the population cut almost in half, the merchants of the place thought they saw ruin before them. The pay-roll of the mills had been more than $175,000 a year, and with the spending of this money stopped it seemed as if the community must die. The income of the churches was cut down, a large part of the foreign congregation of the Catholic Church disappearing as if swept out by a cyclone. There were fewer children for the schools. The value of real estate declined, and those who had put their savings into homes found themselves unable to get rid of them. There were too many merchants, too many physicians, too many barbers—and, one and all, they sat down to see who would go away or go to the wall first. Gloomy forebodings as to the increase of the poor fund

of the town arose; the bells of the mills ceased to ring; the town band, that gave a public concert every week, ceased to play; a water-power estimated as worth from $200,000 to $300,000 lay idle; the machinery of the mills was being shipped to the trust's mills in Alabama; only the four walls of three large buildings remained. The town was dead; the heavy hand of a trust seemed to have crushed it.

And why? Because it could make goods cheaper in the South. The residents of New Hartford said the days of evil began when the owners of the mills sold out to the trust. Reproaches were cast at former stockholders who live in New Hartford, particularly at the descendants of the founder of the mills. Then a clamor arose in the country. It was reported that the mills were closed because the laws of Connecticut would not permit child labor under fourteen years of age. In the South child labor, it was declared, was unlimited in supply. Editors from one end of the country to the other attacked the managers of the company, and those who fear trusts as a menace and see in them the force that can make white slaves of all humanity pointed to the New Hartford example and prophesied the downfall of New England's cotton industry.

Nearly three months have gone by; men have become calmer in the foothills of the Berkshires around New Hartford; and the actual results of the trust's action are visible. It is true that the town has been depleted of its people by nearly one-half. But it is also true that not one person who left New Hartford to work elsewhere failed to get a job. It is also true that in most cases the mill operatives bettered themselves. There has not been one dollar added to the poor fund of the town. Only two small stores in the place have closed. The trade of the merchants has fallen off only about one-third. One school has been closed, but it was a small affair of less than fifty pupils. The income of the Congregational Church has fallen off from ten to fifteen per cent.; that of the Catholic Church probably nearly fifty per cent., because one of its congregations was wiped out. The savings bank deposits, however, have increased in the town, and the number of new accounts opened has shown a greater percentage of increase than last year. The post-office receipts have fallen off to such an extent that next year it will probably be a fourth-class office or the postmaster's salary will be cut $200 or $300.

There has been no case of actual distress as a result of the closing of the mills. Three grades of people have incurred loss: the merchants who had large stocks of goods on hand when, without warning, the closing orders came, and who now have had to purchase another grade of goods; the owners of real estate, particularly those who worked in the mills and now cannot sell; and the farmers who brought in large quantities of garden truck for sale.

On the other hand, newcomers to the surrounding hills are giving new life to the place. One man, Frank Jones, who lived there as a boy, has recently bought an entire mountain at the town's edge and is building a large country estate there. A dozen or more country houses of considerable pretense are scattered about, among them being the delightful and superbly kept home of Clara Louise Kellogg-Strakosch. The hills are as picturesque as the Berkshires and there are more streams in them. The water is declared to be purer, as shown by analysis, than in any other part of the State. The town has shaken itself together and finds that it is not so badly off as it feared.

It is altogether improbable that a waterfall of 1,500 horse-power is going to waste, and although there is no immediate prospect of a new industry coming to the town, some industry will come in time. It will not be a cotton industry, but Connecticut is full of others.

These New Hartford mills were closed simply because they were losing money. The president of the so-called trust has given me his personal word that the mills would not have been shut down if they had "brought back a new dollar for every one that had been expended." For the last three or four years they have brought back only from ninety to ninety-five cents on the dollar. The industry was moved to the trust's mills at Tallassee, Alabama, because it could be made to pay there. It didn't pay in New Hartford for three reasons: the machinery was antiquated; the freight rates on the 8,000 or more bales of cotton used in the mills every year were too heavy a drain, compared to the freight rates to the mills built almost next to the cottonfields in the South; adult labor, not

child labor (there seems to be considerable misapprehension about this child labor of the South), was about fifty per cent. cheaper, to use round numbers, in the South than in the North.

If the trust had not taken these mills they would have been closed several years ago, because they did not pay. The machinery was moved South precisely for the same reason that other cotton mills have been moved thither—to make money. Factory Inspector George L. McLean, of Connecticut, has prepared this table of the average yearly wages for cotton mills in the country: Massachusetts,$351.06; Rhode Island,$334.26; Connecticut, $332.98; Georgia, $194.82; Alabama, $177.89; North Carolina, $169.33; South Carolina, $167.77. Those figures tell why the New Hartford mills, using about 20,000 spindles out of a total of 7,000,000 in the industry, were moved.

This is what happened when the orders came to close the mills: Agents arrived at once from other mills to give the operatives work. The closing order came on a Friday. By Monday 200 of the 750 hands employed in the mills were on their way to other places, where they had already been hired. Before the managers of the trust could reach New Hartford to offer to take their operatives to Baltimore where excellent labor laws prevail, the plant had been cleaned out by agents of other places. Mr. James E. Hooper, the president of the trust, informs me that it was the intention of the company to take care of every employee who would be willing to go, not to the far South, where cheap labor prevails, but to Maryland, where wages are as high as in New England. But the operatives found work immediately in Rhode Island; Danielson, Connecticut; Torrington, Connecticut; North Adams, Massachusetts, and smaller towns near by. Their traveling and household moving expenses were paid for them. One agent brought a special car three times to New Hartford and filled it each time. The rush for the new work was such that one day the train employees had to sweep off the train people hanging to the cars. They even went in freight cars. The great point is that not one capable of working failed to get work, and that the trust would have cared for its employees if it had had a chance. The general prosperity of the country may have brought this condition about, but nevertheless it is true that no one actually suffered more than nominal loss.

Of the 750 employees in the mills, fully 450 were Hungarians. Many of them worked for as low as $5 a week—starvation wages, it would seem. And yet they saved money. One man the day before he left town took out eight $100 money orders, representing his savings, to be sent to the old country. Half a dozen others took out from four to six money orders for $100 each. The chief merchant of the town, who forwarded money by check to a certain New York banking firm for transmission to the old country—there is no bank to do this work in the town—showed me dozens upon dozens of vouchers representing the savings of these people. Scores were for sums more than $100. One was for $1,300. One man who had worked seven years in the mills at $5 a week had $850 as his savings. It went to the old country. One woman who had worked for $4 a week took out a money order for $100, and told the post-office people that it represented her savings for just one year. These low wages were paid because other cotton mills paid the same wages; because such cheap labor could be secured for the industry.

These Hungarians lived in comfortable houses owned by the company. The highest rent was about $100 a year—for houses occupied by foremen. In some of the dwellings—which were quite comfortable—the rent was as low as $1.50 a month. When the mill ran on half time no rent was charged. The company raised large quantities of potatoes and wood on its lands, and often these were to be had free by the employees.

The Hungarians lived largely on barley, which the leading merchant of the town bought by the ton. They did not keep boarders in the ordinary sense. Those who rented cottages sublet their rooms at so much for a bed, so much for a trunk, and so much for the cooking rights of the stove. Not one of them had a bank account. They saved money in stockings; they lived on soup three times a day and seven days of the week; they saved money and they counted themselves prosperous.

All these are gone. Many of the French and most of the Americans remain. Only about 150 children, all above fourteen, worked in the mills, and that is why their closing has affected the schools so little.

CONDUCTING A RUSSIAN NEWSPAPER

FOR PERMISSION TO PUBLISH A NEWSPAPER A PETITIONER MAY WAIT TEN YEARS—THE LIMITATIONS PLACED ON CENSORED PERIODICALS —THE DANGERS RUN BY PUBLICATIONS THAT ARE "CENSOR-FREE"

BY

WOLF VON SCHIERBRAND

WE often read about the censorship of the Russian press. How does it work in everyday practice? How does a Russian editor conduct his paper under it? Outside of Turkey there is no other country where the public intellect as expressed in newspapers, periodicals and books or pamphlets is fettered as in Russia. This more than anything else makes amalgamation with Russia inexpressibly hard for the Finns, bred as they are to untrammeled assertion of their thoughts and convictions; and perhaps no other form of Russian official life gives a clearer insight into the difference between Russia and the rest of the world.

The greatest and most multiform restrictions are those imposed upon the daily press. For the dominating idea of Russian censorship is to guard the mind of the whole nation against intellectual influences inimical to prevailing political and social conditions—against everything which Western notions deem progressive, in fact, to change of any kind. That the influence of the daily press, exerted incessantly and upon broad strata of society, is most to be dreaded from this point of view cannot be denied. A whole chain of obstacles and safeguards therefore tightly encompasses the Russian press.

First, to issue a periodical organ, the Government concession must be obtained. This requires time and money, and even with these is uncertain. First the sum of 5,000 roubles (about $2,800) must be deposited with the Government when the application is made, this money remaining permanently in its hands. Then at best comes a long, long wait, generally several years. But that by no means insures success, even if assiduous and never-tiring efforts are used to fortify the application. A concession cannot be insisted upon as a right, nor is it subject to certain specific and inflexible conditions. Neither the applicant's admitted eminent literary qualifications and repute, nor his irreproachable political belief and conduct, nor his high and influential social position, suffices in itself to obtain one. The Chief of the High Press Administration and the Minister of the Interior can act entirely as they please, and give their final answer in either one or ten years. Sometimes not a single concession is accorded for a number of years, and then there follows a plethora. Curious stipulations are often made. Thus, the recently displaced chief of the bureau stated publicly that he would confer concessions exclusively upon petitioners known personally and favorably to him, and he adhered to the rule.

Every newspaper must have a "responsible" editor and publisher, specially confirmed by the High Press Administration. Thus they become *quasi* Government officials. The "responsible" editor can lose his qualification only by becoming guilty of specific acts. The owner or publisher of the paper cannot discharge him, although he can diminish or take away his salary. The only remedy is then for the paper to ask the bureau to sanction a change—which may or may not be done. Only in case of the "responsible" editor's leaving Russia or becoming guilty of some distinct crime will he lose his place and title. The publishing rights can likewise be transferred only with the previous permission of the bureau, which is very difficult to get. Religious faith is important. Jews are excluded under all circumstances.

If a paper or periodical has its concession annulled, both editors and publishers lose forever the right of issuing or writing for any similar publication.

Concessions are always granted only after the approval of a programme closely outlined by the petitioner, to be adhered to during the lifetime of the publication. The

High Press Administration curtails in advance this programme as much as possible. Hence Russia has many publications of oddly circumscribed scope. Many of them—particularly in the provinces and in the rural regions—have only the concession to publish advertisements, while others must not publish political articles or telegrams, and nearly all of them are not allowed to report the public military trials. If the subscription price of a newspaper does not exceed six roubles a year, it must not engage in any discussion of the existing laws, nor in what is called "high politics." On the other hand, if a publication fails to make a regular feature of any topics included in its scheduled programme, the programme is then correspondingly cut down. In case of suspension, no matter from what cause, the permit of publication ceases within a year.

A concession to publish a paper or periodical is given only to persons toward whom either the High Press Administration or the Minister of the Interior feels well disposed. A real journalist is hardly ever made "responsible" editor. The authorities do not feel confidence enough in him. It is nearly always Government officials, retired army officers and similarly situated persons who receive the sanction of the authorities. The late Chief of the Bureau, Ssolovieff, went further. He forced upon the publishers his personal friends as "responsible" editors.

Despite all these precautions, most new concessions get into the hands of writers more or less identified with the progressive movement in the empire; for the publications of the reactionary, autocratic, old-fashioned type cannot exist—if one excepts a bare few—without large Government subsidies. The educated classes in Russia, high and low, simply refuse to read and support them, and this less from reasons of political and social conviction than because these old-fashioned sheets are too dull, since they have to exclude nearly all sensational and entertaining news matter. There is also another element, omnipresent in the Czar's domains—official corruption, which accounts for the transfer of concessions granted to men of reactionary tendencies to men of different leanings. A glaring case is that of M. Ssasonoff, formerly the official publisher of *Rossya*, an influential daily recently suppressed. He sold his concession for an immense sum. M. Golovinsky sold his concession for the *Sseverny Courier* to Prince Bariatinsky for 50,000 roubles in cash and other emoluments.

If these precautionary measures have not been quite successful, their baleful effects are nevertheless very perceptible. It is due to them that M. Ssuvorine has maintained the practically monopolistic position of the *Novoe Vremya*, a paper which is a very chameleon of political opinion—now Governmental, again moderately liberal, next jingoistic or reactionary, just as the weather vane of political current in Russia indicates, and which precisely by these methods has forged to the head of Russian newspapers. For a short time it looked as if the *Rossya* would dispute its rank, but its editor-in-chief one day recklessly began to attack the Imperial family in the guise of ironical praise. He and his publisher had the highest connections at court and in the army, as well as in Government circles, and on this account Prince Chakhovskoi had pardoned many transgressions. But this last escapade was not forgiven. It precipitated the ruin and permanent suppression of the *Rossya*, and landed M. Amfiteatroff in Siberia. It is, therefore, opportunism turned into a fine art which alone will enable owners of and writers for Russian papers to avoid, at least for a time, the fate of being ruled out of existence, though in the long run even the most accomplished artist cannot escape that fate.

According to the experience of the last twenty years in Russian journalism, if a paper succeeds it will be suppressed; if it is not suppressed it must forego success. The Russian papers are forever oscillating between these two goals. Even the blackest, dyed-in-the-wool reactionary sheet realizes from time to time that it must make a bid for popular favor by printing something it ought not to print and thereby risking or actually incurring penalties, even suppression, simply to increase again its dwindling subscription list. Even the most liberal sheets must at times spread the cloak of reactionism over their columns in order to save themselves from annihilation.

There are two classes of newspapers in Russia—the so-called "censor-free" and the "censored." The "censor-free" paper is, of course, a misnomer, for it is not only subject to censorship, but is also forbidden from printing whole departments of legitimate

news, and many specific items. But, after all, it enjoys more latitude than the "censored" papers. The latter, which print only news, comment, editorials, literary matter of every description, criticism, etc., approved by the censor, as testified by his signature on every proof slip, run, of course, no danger. But such censored papers have neither influence nor a large number of readers. Financially they lead a very precarious existence, and are never heard of outside their immediate neighborhood.

It is the "censor-free" papers that alone represent the Russian press, taking that word in its Western sense, though they are subject to preventive censorship and delay in just those features of news which in other countries are hastened, and which form, in their greater wealth of details and in their speedier receipt, the chief difference between the less enterprising and successful newspaper and its more enterprising and successful rival. This list comprises telegrams, reports of the sessions of city councils, *zemstvos*, and other important local news, all court news, the appearance of cholera and other epidemics, and so on. Many departments of news must only be given after official information (if obtainable, else not at all), such as news of riots, revolutions, movements of the army, all Government measures and appointments and dismissals. Some kinds of news must never be touched on: for instance, suicides, internal conditions of Russian schools and universities, strikes, lockouts, and all other labor news, even including editorials on labor statistics, the duration of working hours and wage scales. Political murders, all plots of a political nature, dissertations on anarchism, socialism (even in other countries), and any other news "calculated to disturb the peace of mind of the Russian subject," as the Government decree has it, are also strictly tabooed. Religious news, including such cases as Tolstoi's, is, of course, excluded. Very often circulars are issued prohibiting the press from mentioning certain events, such as sensational trials, and in many cases extending this prohibition to matters trivial or worse. One of these recent circulars forbade "further mention of the wives of the Sultan," for instance. Another time it was forbidden to discuss a theatrical scandal in connection with a new drama, called "The Smugglers," and still another time the papers were interdicted from chronicling the boycotting of the *Novoe Vremya* because of that paper's attitude on the university students' riots. For many years it was not allowed to speak of the sessions of the National Economic Society. Mention of particular newspaper articles, and polemics engendered thereby, is frequently proscribed.

This, then, is what is meant in Russia by the term "censor-free." Yet, with all these difficulties, most papers prefer this limited supervision, with all its attendant dangers and penalties, to the complete serfdom of the "censored" press. But the number of such "censor-free" papers is very limited, for the Government does not issue many concessions, even in place of those annulled. In the main it is only in St. Petersburg that such concessions are granted. In Moscow, even, no concessions for "censor-free" papers are any longer accorded. And it took a periodical of considerable ability in St. Petersburg several years to obtain permission to change from a "censored" into a "censor-free" publication.

The "warning" is one of the most formidable censoring weapons. According to the Imperial ukase, it requires three warnings before a paper or periodical can be entirely squelched. There are other weapons, of course, such as "temporary prohibition," "disallowance of the street sales of papers," and "interdiction to receive and publish advertisements." All these modes of punishment are, of course, severe enough, and if insisted upon long enough will sometimes ruin or embarrass a publication. But the "warning" is the most dreaded of all, next to complete suppression. Such "warnings" are given entirely according to the whim of the Minister of the Interior or of the Chief of the High Press Administration, sometimes for ludicrously small contraventions of the press regulations.

The worst punishment, suppression, is now meted out by the so-called "conference of ministers," composed of the Chief Procurator of the Holy Synod, the Minister of the Interior, the Minister of Education, and the Minister of Justice.

Censorship in Russia certainly retards progress. But will it stop it eventually? Signs are not lacking that it will not.

OUR INDUSTRIAL INVASION OF CANADA

THE MARVELOUS RESOURCES OF BRITISH NORTH AMERICA AND HOW MEN FROM THE UNITED STATES ARE DEVELOPING THEM—A STUDY OF AMERICAN INFLUENCE MADE DURING A JOURNEY ACROSS THE CONTINENT

BY

ROBERT H. MONTGOMERY

CECIL RHODES once passed his hand across the map of Africa and said, "I want to see this all red"—or, in other words, all British. A like American expansionist who hoped to see the North American continent "all red"—or controlled by the United States—could readily fancy, in taking such a trip as I recently took from Sydney, Nova Scotia, to Vancouver, that a reddish tinge covers territory far to the north of our northern political limits; for the industrial boundary of the United States runs in a waving line across the continent well within Canadian territory.

The story begins at the Atlantic threshold of Canada and proceeds to the Pacific Ocean—with American achievements all the way. And how did it begin? What, for example, called Mr. Henry M. Whitney, of Boston, from his finished task of giving Boston a rapid transit system, to a bleak and obscure coast village in Nova Scotia, and how did he manage great steel plants there? And what called other men across the boundary line? This is what I set out last June to discover.

"Why, if we Canadians had asked the bankers for a third of the money he secured and expended at Sydney," said a Montreal manufacturer, telling me of Mr. Whitney's methods, "they would have laughed at us." Yet Mr. Whitney had merely been acute enough to perceive what I found at Sydney, when I began my investigations, to be a unique opportunity and to explain it lucidly to other financiers. In the civilized world there is no other tide-water district where iron ore, limestone and coal are found so close together, so good and so easily obtainable. Coal, Mr. Whitney found, could be mined and put on shipboard at less than a dollar a ton. Limestone and iron ore were handy. Accordingly he set to work. As mining lands in Canada are merely leased to operators who pay such high royalties that one-third of the Government revenue of Nova Scotia comes from the mines alone, it was necessary first to give strong guarantees to pay large royalties. He gave them. Thus political objections were overcome. Next the various Sydney coal companies were consolidated into the Dominion Coal Company and affiliated with the Dominion Iron and Steel Company. Limestone quarries were secured, and at Great Belle Island immense deposits yielding fifty-three per cent. of iron were obtained, lying so close to the water's edge that the cakes of ore were shoveled directly into the holds of ships. Cargoes of iron ore are delivered at Sydney from the Wabana mines for less than $1.25 a ton. Stephen Jeans, an English authority, computes the cost of manufacturing hematite iron at the greatest steel centres of the world as follows: West Cumberland, England, $15.65 a ton; Westphalia, Germany, $13.50 a ton; Pittsburg, $9.57 a ton. At Sydney the cost is $7.45 a ton—without deducting the government bonus of $2.70 on each ton of native ore and $1.80 a ton for foreign ore manufactured in Canada, which would lower the net cost to $5.65 or $4.75 a ton according to the source of the ore. This was Mr. Whitney's discovery in Canada. When the works at Sydney are completed, they will turn out half a million tons of steel a year, and already plans are on foot to begin ship-building there.

Mr. Whitney has disposed of his control of the Dominion Iron and Steel Company, but it was his genius that created this typically American industry beyond our borders.

Sydney is 1,200 miles nearer European ports than Baltimore, the port nearest Pittsburg; 2,300 miles nearer Liverpool than Pensacola, the port nearest the Alabama iron district; and

through the fact, not usually borne in mind, that South America lies far to the east of the United States, 600 miles nearer Rio de Janeiro and Buenos Ayres than New Orleans and Mobile. It is also 900 miles nearer Cape Town than these Gulf ports are. In fact, it may not inaptly be termed "The nearest port to anywhere." Its deep reef-free harbor, on the shore of which stands the steel plant, is untroubled by fog and is ice-locked only twenty days a year; and furthermore, it is supplemented by Louisburg Harbor, forty miles south, which is never ice-bound. Between the two is the Marconi wireless telegraph station. Already fast developing, what shall this region of great natural wealth and easy communication with the world become in the future? And yet it might still be slumbering undeveloped if it had not been that an American industrial pioneer had seen there an opportunity.

With this thought in mind, I journeyed westward up the great Laurentian Valley. Here, running to waste, was the greatest natural advantage next to abundance of raw material and access to markets—namely, power. Quebec and Ontario possess in their vast systems of lakes and streams the largest reservoir of hydraulic energy in the world. And already I found American industries making a beginning in those two provinces. Within fifty miles of Ottawa, energy of nearly a million horse-power is susceptible of cheap transmission to the city, though only one-sixteenth of that amount is now used.

The standing timber of Canada equals that of the continent of Europe and is nearly double that of the United States. I asked an American manufacturer of wood-pulp what the resources of his business are.

"About half of that," he replied, sweeping his hand across the map of Canada. Forty per cent. would be more nearly accurate.

The timber belt stretches from the Atlantic coast to the plains beyond the Great Lakes, and from the slopes of the Rocky Mountains to the Pacific Ocean; while on the north, beyond the "Height of Land," is a vast area of timber sweeping across the continent from Labrador to Alaska, 700 miles in width and 4,000 in length. Of these forests no small proportion is spruce, white and black, the preferred material for wood-pulp, used for paper and other commodities ranging from car-wheels and water-buckets to buttons. A single district, that of Lake St. John, north of Quebec, bears spruce equal to the entire forest area of Norway, and has 700,000 horse-power in its streams waiting to be harnessed.

Throughout this territory the American of characteristic enterprise and ability is ubiquitous. Millions of American dollars are being expended yearly on huge pulp mills equipped with the best American machinery, and large towns are fast springing up around the once lonely cataracts in this vast hinterland. Apart from numerous small concerns and new ventures still under construction, I was able to visit immense pulp mills at Sturgeon Falls, at Sault Sainte Marie and at Grand Mère on the St. Maurice; corporations whose timber limits aggregate many thousand square miles, and handle many millions of logs per annum, producing pulp which, from its high quality, is driving the Scandinavian article from the markets of Europe, is supplying many mills in the United States, and is largely used in Australasia, India and Japan.

These American investors are determined to make their position in Canada that of sovereignty in the paper-using world. Twenty years ago wood-pulp went into the manufacture of but eight per cent. of ordinary paper. Today more than eighty per cent. of such paper is made with wood-pulp as the chief ingredient. The pulp has become one of the prime necessities of civilized peoples. The supply in the United States is dwindling as its forests disappear, and that of Europe also, while the demand continually increases. Attention is, therefore, now transferred from exhausted districts to the new Canadian field, and a flow of English, French and Belgian capital has set in which promises phenomenal development. Americans, it need hardly be said, are still foremost in expansion, as they were pioneers in the inception of the industry. Ezra B. Eddy, of Hull, near Ottawa, who operates the largest manufactory of pulp products and matches under the British flag; General Russell A. Alger, of Michigan, who initiated the development of the Laurentide Pulp Mills at Grand Mère; Francis Clergue, of Maine, whose pulp processes at the Canadian "Soo" are the world's criterion of excellence; the Clarks, of New York, pioneers on the far northern shore of the Gulf of St. Lawrence; the late Ex-Senator Warner Miller, of New York, one of the organizers of the International Company, in the St.

Maurice region—led the van of the American invasion. And largely, too, upon American machinery, engineers and employees are European investors in the region depending for success.

Crossing the gardenlike peninsula of Ontario, I proceeded to the upper lake region, and that portion of its north shore known as Algoma or "New Ontario." Here is demonstration of American discovery and conquest even more recently achieved than that in eastern Canada. On the Canadian shore of the "Soo," by the original purchase of a small power canal, Mr. Francis Clergue, of Maine, representing a Philadelphia syndicate, has developed in a few years, and by natural, conservative progress, the "Consolidated Lake Superior Company," a corporation including water-works as well as the original canal, light and power plants, pulp mills, chemical and mechanical, railroads, telegraph and steamship lines, iron mining, smelting and blooming, and electro-chemical works, with all their subsidiary industries. Mr. Clergue was, as he says himself, "fortunate enough to come to Sault Sainte Marie in 1894, and sensible enough to stay there." His original investment was modest—the acquisition of a 5,000 horse-power canal and its enlargement to fourfold that capacity. The company was then prepared to lease power to manufacturers, but there was apparently no one sufficiently far-sighted to seize the opportunity. The power company, tired of waiting, erected a pulp-mill and went into manufacturing on its own account. The story, as Mr. Clergue tells it, of how the need of sulphur for the process of chemical pulp-making led to scientific investigation by his experts, resulting in a performance of the "impossible" feat of roasting sulphur from the Sudbury nickel, near at hand, and how the resulting "matte" was discovered to be a superior quality of ferro-nickel, eagerly contracted for by the late Herr Krupp of Essen, is curious enough. Press him a little further and learn the stranger sequel of how the excess of nickel in the "matte" beyond contract requirements led to a search for iron ore to qualify it, and of the accidental discovery of the rich Michipicoten mines. An ignorant prospector, thinking he had found gold, brought his specimens to Mr. Clergue to be assayed. On learning that his treasure was only iron, he was so disgusted as to sell the claim for $500. Later, when it was discovered how rich the mines are, Mr. Clergue made a life settlement of $75 a month upon the lucky prospector, who thus found his gold mine after all. The development of Michipicoten required the construction of railroads and the purchase of a fleet of steamers, and these in turn led to other developments; but they cannot be related here, though the story would read like a romance.

One thing failed Mr. Clergue: coal is not available at Sault Sainte Marie unless brought from Pennsylvania; but in place of coke for the blast furnaces, charcoal is made by a new process and can be used economically; charcoal cannot be afforded at rival plants except for the manufacture of the finest crucible steel. The thousands of acres of forests comprising the company's timber limits supply an abundance of hard wood for the charcoal, and the utilization of the by-products will necessitate new structures, extending the already large territory covered by the company's picturesque buildings of red stone. Every dollar of the vast expenditure for the construction and equipment of these works and transport lines came from the pockets of the syndicate. There is not a mortgage nor bond of the concern in existence, and the funds at Mr. Clergue's command seem unlimited. He occupies, with his brother, picturesque bachelor quarters in the remodeled block-house which once guarded the Hudson Bay Company's post, around the premises of which, as guardians, two or three large bears are usually tethered. His method is Napoleonic; his outlook is no less remarkable than his appetite for detail.

Educated as a lawyer and trained as a banker, he is also a mechanic and an engineer. When not inventing an improvement in a machine, he may be dreaming before his fire of a few hundred miles more of railway; both will be executed. He required an apparatus for drying pulp to save freightage on fifty per cent. of useless moisture; there was no such machine. He drew plans for it, but the makers of pulp machinery declined to build it, declaring the idea to be erroneous and the plan impossible. He built the machine in his own shops and made it work. The saving over the old method is represented by $1,000 per day.

Many of Mr. Clergue's schemes have seemed

impossible, as did this machine, but eventually they have succeeded and have paid as handsomely. The completion of the Algoma Central Railway, of which Mr. Clergue is manager, from the "Soo" via Michipicoten to Moose Factory on Hudson Bay, will mark the beginning of a new era in North American history; and when, in addition to Canada's already valuable export of fishery products to the United States, the salmon of the great sub-Arctic sea are delivered fresh on the Chicago markets, nine hundred miles due south, as Mr. Clergue promises, it will stand as an achievement in the history of man's struggle to subdue the Northland. This line of railroad will open a country equal in area to one-half the State of New York, and with a soil more fertile and a climate more equable than prevails in many more southerly and already settled portions of the continent. The company is pledged to bring in, and provide farm homes for, 1,000 settlers annually for five years, this in return for the Government grant of 6,400 acres of land per mile of railroad. Mr. Clergue is therefore not only a discoverer but also a colonizer, as well as an industrial czar in what was not long ago a howling wilderness.

I have here touched upon American industrial outposts located in portions of the Dominion widely separated from one another. But bear in mind that in the whole of her vast territory Canada has fewer inhabitants than the State of New York; that the revenue by which the Government is sustained, great public works constructed and the laws efficiently administered is less than the revenue of the City of New York. To a population so widely scattered, means of intercommunication are accordingly of exigent importance. Canada has, as the result of an enormous expenditure, a system of waterways by which sea-going vessels may penetrate almost to the heart of the continent. These were for a time sufficient, but years ago a few public men began the agitation for a policy of railroad construction which was then largely in excess of the country's requirements. The Grand Trunk was the pioneer line, and for many years was alone in the field, increasing its Canadian mileage from two or three hundred miles in 1855 to more than three thousand in 1901. Its history has been checkered, as the English capital most largely interested was slow to realize that a Canadian railroad cannot be successfully managed from a transatlantic base; but the lesson once learned was taken thoroughly to heart. In 1895 Charles M. Hays, then Vice-President of the Wabash system, was selected as General Manager of the Grand Trunk, and, except for a few months, when he succeeded Collis P. Huntington as President of the Southern Pacific, has occupied that position ever since. Mr. Hays cut away deadwood ruthlessly, and effected a thorough reorganization of the twenty-five lines comprising the Grand Trunk system, putting the whole upon a modern and efficient basis. The great increase in the road's business and prosperity is entirely due to Mr. Hays and the American railroad men he selected as his subordinates. But though the Grand Trunk, for some time, met the requirements of eastern Canada, and the Intercolonial Railway, a national undertaking, connected the Maritime Provinces with Quebec, it was felt that until there was a comprehensive railroad system from ocean to ocean, to bind the incoherent confederation together, Canada could not become a nation. This was the inspiration that American experts crystallized as the Canadian Pacific Railway.

In 1881 the political party in power opened negotiations to construct a transcontinental railroad with the capitalists who eventually completed it. The first task of these builders was to find capable and experienced men to carry out their project. It was then that two American railroad men of mark, William C. Van Horne and Thomas G. Shaughnessy, first became interested in the great enterprise. Sir William Van Horne, before he accepted the management of the Canadian Pacific, had had a varied experience of railroad life. In his fourteenth year he was an office boy in an Illinois railroad station, rising to the posts of telegraph operator and ticket agent, and ascending grade by grade in the employ of various lines in different parts of the Union until he became, in 1880, General Superintendent of the Chicago, Milwaukee & St. Paul Railroad. In the following year he was chosen as General Manager of the projected Canadian line, and given the task of constructing it across the plains and over the mountains to the Pacific Coast. He selected as his right-hand man, Mr., now Sir, Thomas Shaughnessy, who had served with him in Milwaukee and has since succeeded him

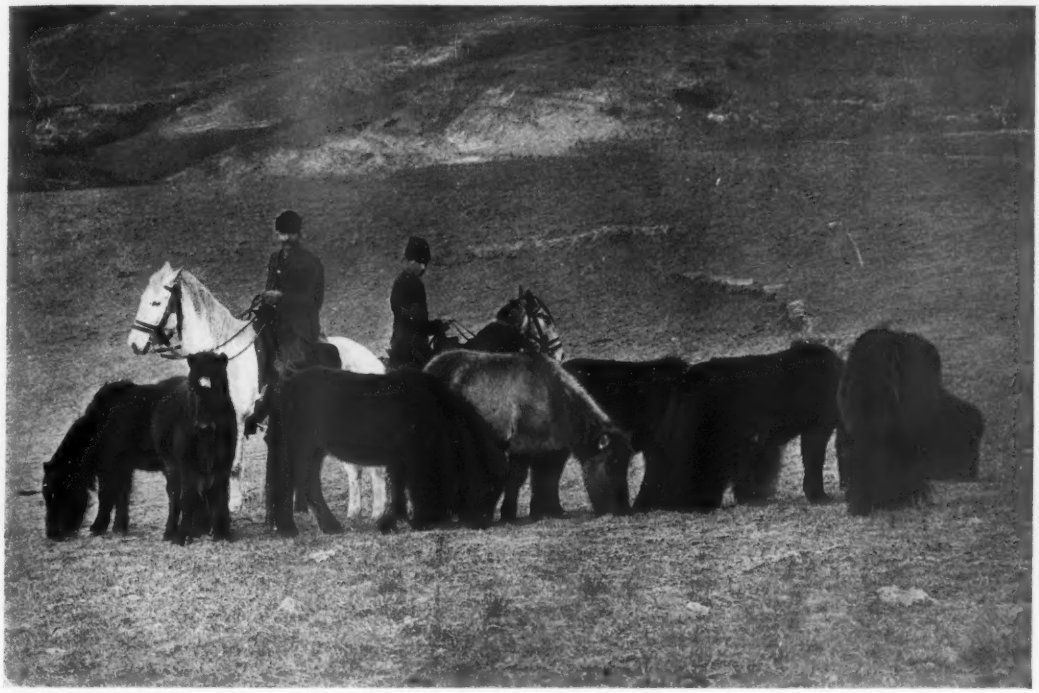
in the presidency of the Canadian Pacific. The last rail of the line was laid fifty-four months after the commencement of the road by the company, and in less than one-half the time required by its contract with the Government.

The day came when the first train for the Pacific Coast was scheduled to leave Montreal. On time to the second, it pulled out of the station with as little demonstration as if it had set out daily for years. Ten minutes later a battery of field artillery dawdled up, unlimbered, and prepared to fire a salute when the train should depart. Great was the disgust of the major in command when he learned that the object of his attentions was already some miles on its way west. "Well," said Mr. Van Horne, in humorous reference to the leisurely methods of the rival road, "I guess he thought he was to salute the Grand Trunk!" Sir William Van Horne, knighted by the late Queen Victoria, is accounted the ablest as he is certainly the most versatile man in Canada. He is repeating for Cuba just such a triumph of trunk line railroading as he accomplished for the Dominion. He is a member of a score of boards of manufacturing and banking enterprises, and fills a seat at the councils of McGill University. By way of recreation he gathers canvases by Velasquez or Corot, his love of the masters all the keener because he is himself an artist of talent. His collection of Chinese and Japanese porcelains is one of the best in America; he can stay up, after a hard day's work, till two in the morning transferring to paper the outlines and hues of his jars and vases. He talks admirably, writes well and has a hearty appreciation of the best literature, and naturally Stevenson and Kipling are among his favorites. He is in intelligent sympathy with science. There is nothing mechanical, from the proportions of a chimney to a folding berth for a steamship, that he cannot set forth with pencil and specification. At rare intervals, perhaps during a transcontinental journey, he draws up to the card-table. Then he becomes an object of dread, for never was there such a bluffer before.

Under the successive supervision and management of Van Horne and Shaughnessy the Canadian Pacific has grown to control railroads aggregating 6,874 miles within the Dominion and owns fleets of steamships on the Great Lakes, and on the Pacific Ocean royal mail liners to China, Japan and Australia. The company is now tendering for the projected fast mail service between Canada and Great Britain. By rail and water it maintains a continuous transcontinental route between Halifax, Nova Scotia, or St. John, New Brunswick, to Victoria, on Vancouver Island, British Columbia, the only single ocean-to-ocean railroad on the North American continent. The original purpose of the Canadian Pacific was political and military; its financial success was purely speculative. There were not wanting men of influence who jibed that it "would never pay for the grease on the car-wheels." Needless to say, its constructors had more confidence, and to one who has traveled by it through the Northwest, of which it is the main artery, it is incredible that men of intelligence could ever have doubted the future of the country or the success of the road. So rapid has been the development of the country through which the Canadian Pacific runs that the Grand Trunk is now preparing to share in the prosperity of the Great West of Canada by extending its line to the Pacific. Nearly 3,000 miles of railway will be built across the continent at an expenditure of from $75,000,000 to $100,000,000—another monument to the "forward policy" of Mr. Hays. The joke of Sir William Van Horne in the matter of the battery that arrived too late no longer has point.

The gold fields of western Ontario have just begun to produce gold, but a large amount of development work has been done, and the prospects are that in output these fields will rank with the Rand and the great Comstock lode. Americans are almost entirely responsible for all the work done on the mines in the Rainy River District, as the Ontario gold fields are generally known, and the capital has been drawn from "the States." Many mills are already in operation, though it is hardly ten years since the gold-bearing quartz veins were discovered when the Canadian Pacific line was cut through. Shafts have been sunk in many places chiefly by American compressed air drills bought by American capital and operated in many cases by American miners.

Though these new gold fields are almost on our very borders, little is known to the public in general, but the mining men are thoroughly alive to their importance.

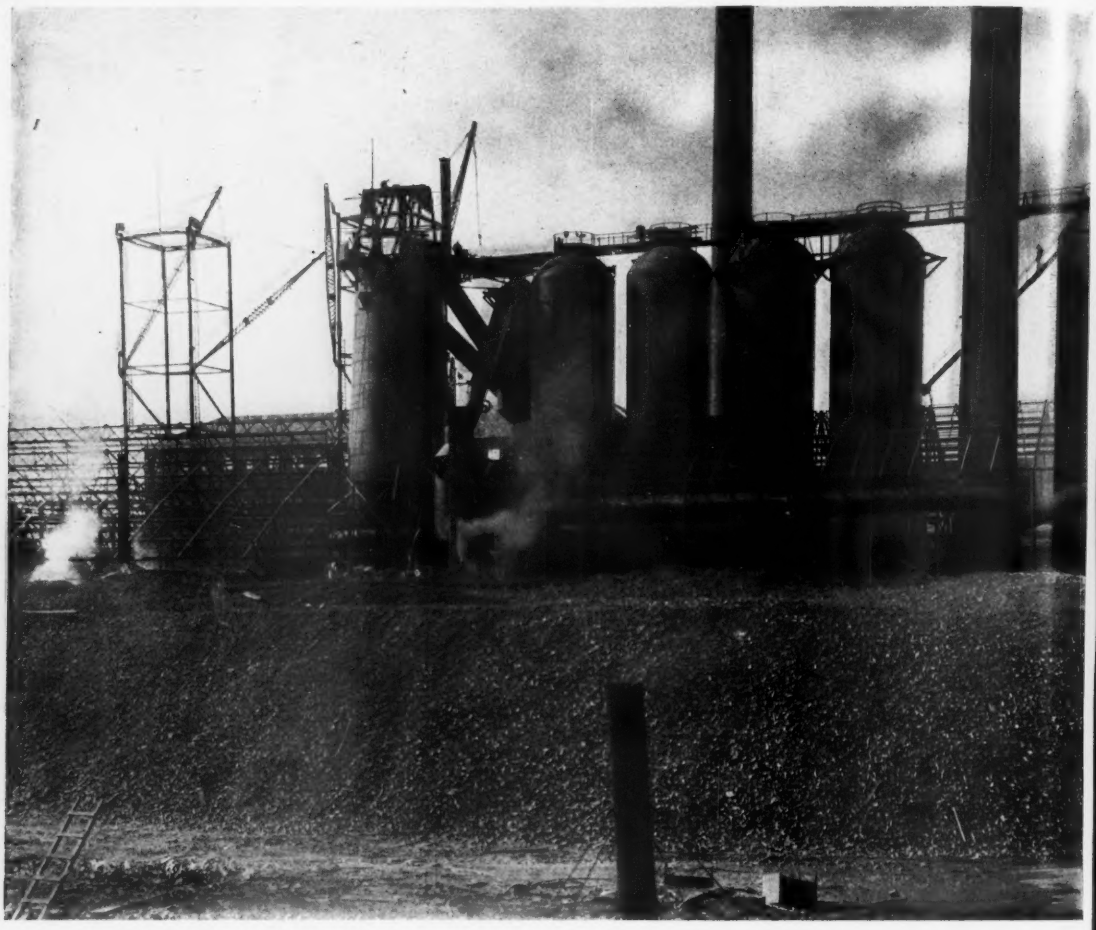


THE FIRST IMPORTATION OF SHETLAND PONIES INTO THE NORTHWEST
Lethbridge, N. W. T., Nov. 22, 1890

During the past autumn Sir Wilfrid Laurier, the Premier of the Dominion, in a speech at Liverpool, said that within two decades Canada would be able to supply the total wheat requirements of Great Britain. One of the most notable features of the decorations in London for the coronation ceremony this past summer was a triumphal arch of cereals at Whitehall bearing the illuminated legend, "Canada the Granary of the Empire." This was a bold bit of advertising, but its boast and Sir Wilfrid's statement have a basis of fact. But Sir Wilfrid did not consider it necessary to add that the development of the "Empire's Granary" was being effected, not by English immigrants or Canadian pioneers, but by farmers from the United States.

There has lately been a steady migration of Western farmers into Canada. It is now generally conceded that the bulk of the wheat-bearing lands of North America lie beyond the international boundary. The western wheat belt of Canada is estimated to equal an area of 400 miles from north to south and 900 miles from east to west. This does not include the cultivable area of Manitoba and the Northwest Territories. As an example of the vastness of this new cereal Eldorado I will specify one territory, Saskatchewan, one of the most fertile districts in western America, equaling in extent the combined area of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, Delaware and Kentucky. This deep-soiled river valley has at present a population of about 25,000 souls, over a third of whom are Indians.

As I passed through Manitoba, from the Lake of the Woods to Brandon, and still westward to Regina—through one vast wheat-field awaiting the reaper—it was an effort to realize that but a few years ago the entire country was deemed a worthless wilderness, unfit for any purpose except the production of furs for the Hudson Bay Company. This impression was due partly to ignorance, but also, to a considerable extent, to the deliberate misrepresentations of the servants of the company, who wished no intrusion on their preserves. The United States Consul at Winnipeg was one of the first to realize the great opportunity, and his reports were corroborated by millers at Minneapolis and



FURNACES OF THE DOMINION IRON AND
A monument to the enterprise

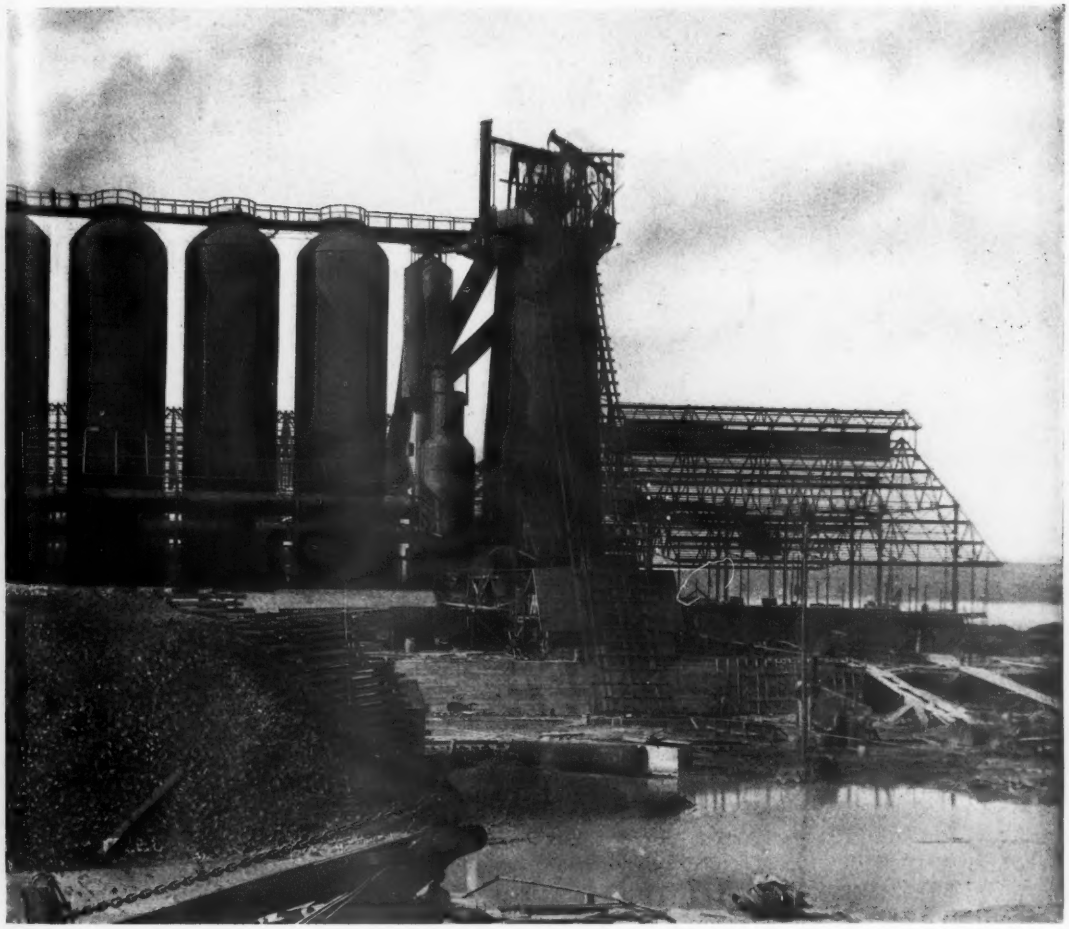
St. Paul long before the attention of the world at large had been directed to the "wilderness" which in 1902 produced 75,000,000 bushels of the finest wheat in the world.

Mr. Theodore M. Knappen, addressing the Bankers' Association of Minnesota not long ago, said that at the present rate of American immigration into Canada there would in ten years be farmers enough to produce 250,000,000 bushels of wheat; and deducting the comparatively small amount required for home consumption, Canada will then export cargoes nearly double those of the American shipment of today. The farming population which produces the present relatively great crop of "No. 1 Hard" is at present insignificant in numbers and occupies a territory that is trifling compared to the area capable of cultivation. In Manitoba and the Northwest Territories 260,000,000 acres of arable land today await the plow.

Seeking contact with American trekkers, I spent a most interesting day in the busy office of the Commissioner of Immigration at Winnipeg, and conversed with a remarkable variety of land seekers. Shrewd-faced deputies from Indiana and Nebraska came in to report their impressions. I found them, without exception, enthusiastic about the country they had been sent to spy out.

"See that rye," pointing to a specimen sheaf seven feet four inches in height. "The land that grows that is good enough for us," one of them replied to my question.

In the first six months of 1902 eighty-six per cent. more emigrants entered Canada than in



STEEL WORKS AT SYDNEY, NOVA SCOTIA
of Mr. Henry M. Whitney

any preceding year. A large proportion of this immigration, 25,000 at least, was of American citizens. The estimates published in the American and Canadian press may in many cases be inflated, and it is extremely difficult to procure accurate statistics. Careful inquiries and my own observation would go to show that forty per cent. of the American immigrants are not entered on the Immigration Commissioner's books, having trekked singly or in parties across the frontier, and not having entered by the ports of registration on the lines of rail. I should say that there are already 70,000 people of American extraction in that country.

It would be erroneous to assume that this migration of Western farmers is due to dissatisfaction with their old homes. Apart from the tendency of certain adventurous spirits to push toward virgin territory, and the overflow of young men from already congested farming districts, the bulk of the immigrants go to Canada because they can sell their old farms for from $30 to $40 an acre in many cases, and can buy as good land under the British flag for from $7 to $10 an acre, starting anew under favorable conditions with ready cash in hand. A certain proportion of each new township is of crown lands on which the "homesteader" may secure an allotment on the payment of a nominal fee of $10 for 160 acres of land, and after a residence of three years, in compliance with homestead regulations, receive an absolute title. Or he may purchase lands from the large grants owned by the Canadian Pacific and Canadian Northern

A LOG JAM

In the rapids above Notch, Montreal River

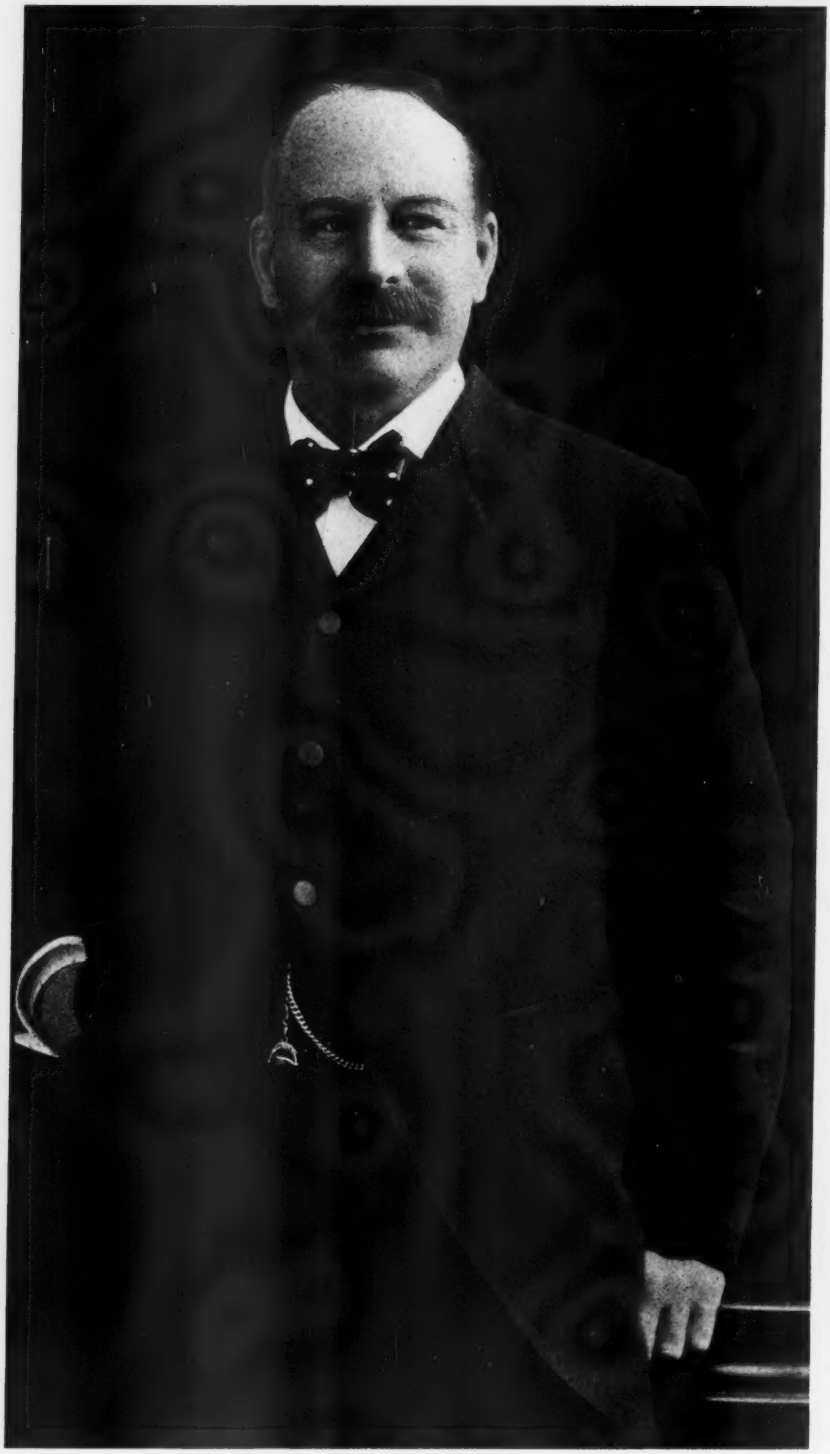
HOW WEALTH INCREASES IN MANITOBA

New barn Old barn New house Old house

railroads, or buy a farm from one of the many land companies, chiefly American, which have recently acquired large tracts of the railway lands. The Hudson Bay Company also controls enormous holdings. The total land sales during the summer of 1902 were fivefold those of 1901, with prices steadily rising. Lands selling at $3 an acre five years ago are now bringing double or treble that price. American capitalists are forming syndicates for the purchase of large tracts for "bonanza" farming. A syndicate headed by T. B. Hoard, of Nebraska, has bought 40,000 acres in an unbroken stretch at $5 an acre. This farm is near Davidson, on the Prince Albert branch of the Canadian Pacific, and will throughout its great extent be sown in wheat.

I give this as only one example of several large sections of the wheat belt which, within the year, have passed into American hands, chiefly those of experienced farmers from Montana, Minnesota, the Dakotas, Indiana and Nebraska. Many immigrants have selected their home-sites in what is known as the semi-arid region, comprising most of Assiniboia and all of southern Alberta, a district already containing a larger population than any other equal area of the Territories. The soil is deep and exceptionally fertile. The Americans settled on the "Soo" line, near Estevan, have gone largely into flax growing. They told me that in their old districts they considered a crop of fifteen bushels an acre as first rate. Their new farms are yielding twenty bushels

ST. JOHN, NEW BRUNSWICK, FROM FAIRVILLE



MR. HENRY M. WHITNEY

Who developed the resources of Nova Scotia

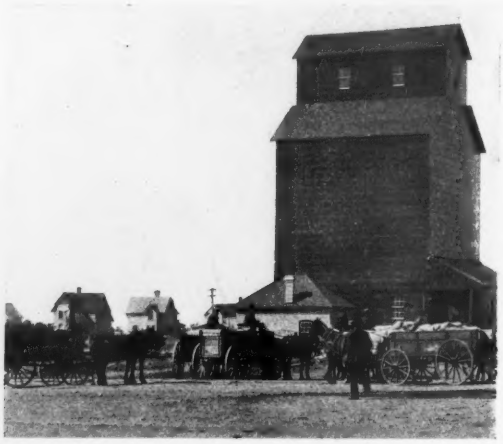
Photographed by Notman

SIR THOMAS G. SHAUGHNESSY

PRESIDENT OF THE CANADIAN PACIFIC RAILWAY

A CORN PLOT
At Indian Head, Manitoba

per acre. They attributed this to the fine quality of the soil and the long solar light of the northern summer day. The reports these men and others similarly situated send to their old neighbors help the steadily growing migration from the Western States. In this district, irrigation, where necessary, is easier than in the higher altitudes of the southern division of the continent. Many canal systems have been completed by individual



FARMERS DELIVERING GRAIN AT THE RAILWAY ELEVATORS, MANITOBA

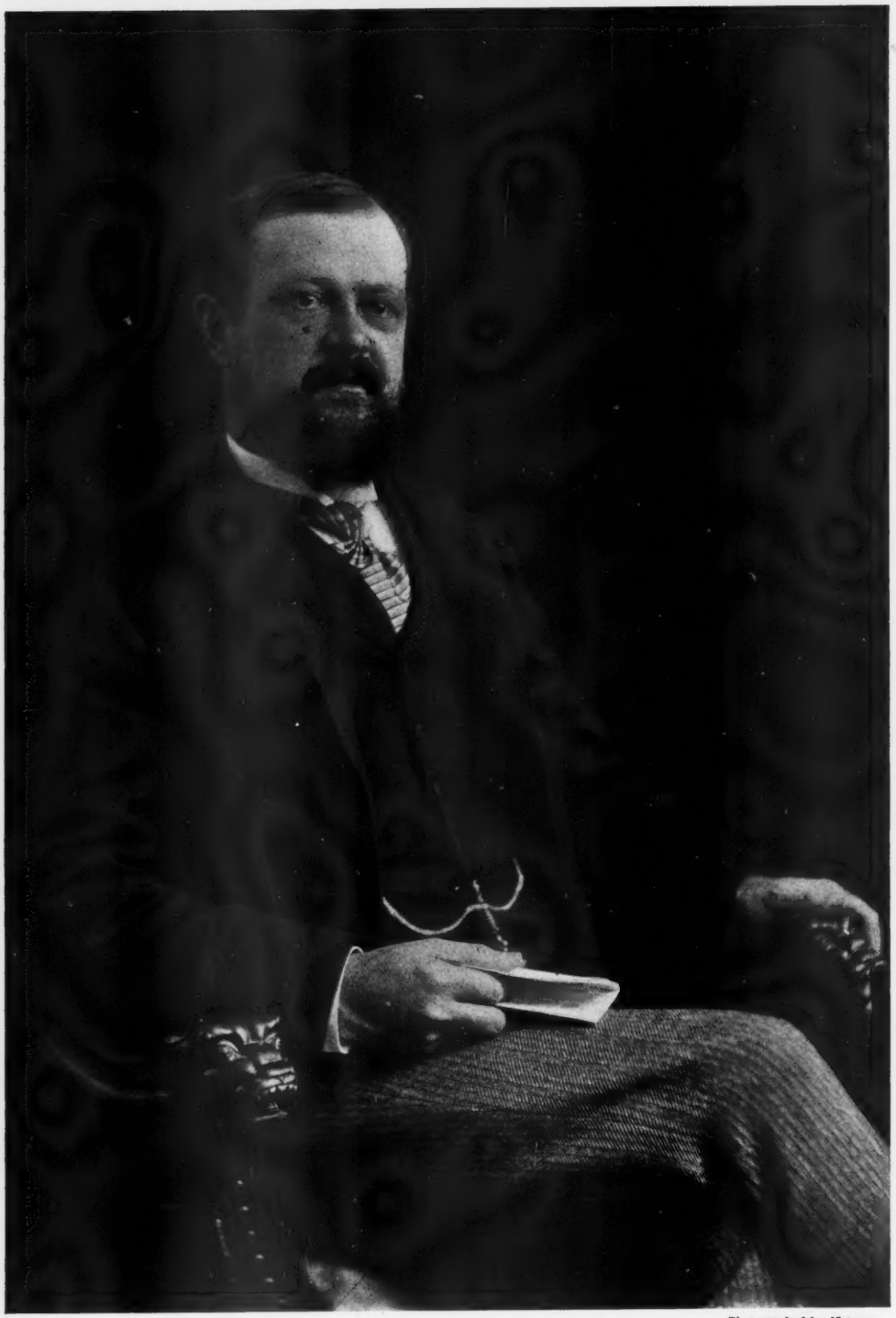
enterprise; all are under government supervision. These already irrigate several million acres, and more ditches are being surveyed and constructed. The rainfall is usually abundant, and irrigation is essential only in exceptional years. In the Western and Southwestern States artesian wells are largely relied upon for water supply; in southern Alberta the natural reservoirs contain enough water to irrigate every foot of land. Windmills or steam pumps are not required; the natural fall of the ground toward the northeast is amply sufficient, and, indeed, the main engineering problem has been to modify this descent. On an average the cost of irrigation has been $2.25 an acre, or less than one-half the cost in Montana, which has the cheapest system in the Union. Some of the Mormon

BRANDING A STEER AT A ROUND-UP
In Alberta

settlements in the irrigated districts of western Canada have been very successful in the growing of sugar-beets; so that wheat is by no means the sole dependence of the new settler. All the staple cereals are raised in the Territories, and mixed farming, dairying and ranching, the latter on a large scale, are profitably conducted.

An important effect of irrigation is that it considerably mitigates the danger of summer frosts, though even in the more northern and non-irrigated districts this seems to be no longer a menace; the last serious frost took place as long ago as 1893. Climatic conditions here as elsewhere have been bettered by the opening up of the country. An Agricultural Commission once gravely reported on the climate of Illinois as being unsuited for wheat culture! Since then the wheat belt has made two northward jumps of 300 miles each. Climatic conditions give western Canada an advantage over the eastern portion of the Dominion with whose icy breath Kipling's "Lady of the Snows"

IN THE SAULT SAINTE MARIE CANAL
A whaleback after a storm on Lake Superior



Photographed by Notman

MR. CHARLES M. HAYS

VICE-PRESIDENT AND GENERAL MANAGER OF THE GRAND TRUNK RAILWAY SYSTEM

Photographed by Notman

SIR WILLIAM C. VAN HORNE

CHAIRMAN OF THE BOARD OF DIRECTORS AND EX-PRESIDENT OF THE CANADIAN PACIFIC RAILWAY

made the world familiar. The isotherm of sixty degrees, which in July lies north of Quebec, in the east, touches the mouth of the Mackenzie River above the Arctic Circle in the west. As it is rather solar light than solar heat that growing wheat demands, these northern lands, with their long summer days of sunshine, are far better suited to its successful, rust-free cultivation and speedy ripening, than are more southerly stretches. I made particular inquiries concerning the severity of the winter, but was assured by American settlers in different sections that it was far milder than an experience in Montana might suggest as existing farther to the north. Temperature is less an affair of latitude than of altitude, and the elevation of the Northwest Territories is considerably less than that of their southerly neighbors. The cattle range free all winter and come through in good condition. Cattle, sheep and horse ranches are conducted both on the plains and in the foothills, and of late years have proved most profitable.

Though the recent progress of all this country, since the American discovery, has been phenomenal, it is but an earnest of a development unprecedented in the history of the continent. Already the railroads are taxed to their utmost capacity to handle the crops, and despite the annual increase of branch lines, the construction of new cars, engines and elevators, transportation facilities still lag behind the demand. In 1901, with a crop of 50,000,000 bushels produced in Manitoba alone, that grain inspection district had an elevator capacity of less than half the requirements. More railroads and elevators are urgently needed, and it seems probable that Americans will build them.

MOUNT STEPHEN
British Columbia

The share that United States citizens have taken in the discovery and exploitation of the

WITH THE SPOILS OF THE HUNT

Kippewa, Province of Quebec

IN THE CANADIAN ROCKY MOUNTAINS

The lakes in the clouds.—Lazzau, British Columbia

GENERAL VIEW OF EAST INDIAN HEAD, MANITOBA

Once the home of the buffalo

Yukon, or Klondike, is well known; in the rich mining districts of the Kootenay eighty per cent. of the capital invested is Western American. Mr. James J. Hill is interested in the coal mines of Crow's Nest Pass, and Americans control lignite deposits in neighboring localities. British Columbia is one of the richest gold-bearing sections in the world, and miners have a saying that "If the head of the rat is in Alaska, and his tail in Montana, his body is in British Columbia." The American mining development of that province has steadily advanced since 1862, when it was initiated by Californians, and the average output of recent years has been more than $4,000,000 annually.

I have given an outline of the industrial effect of the American invasion from sea to sea. What the social and political result will be it is too early to prophesy. In some quarters of Canada anxiety is expressed, but, it would seem, needlessly. That the fusion of the two peoples caused by counter migration of Americans and Canadians across a purely arbitrary boundary is inevitable is the conclusion of some observers; but at any rate, it guarantees the final occupation of the land by men of the same sturdy stock, speaking the same language, and with customs, laws and religion essentially alike. All the way across the continent American pioneering energy is pushing its conquests northward across the line and the industrial frontier is spreading farther and farther.

A TYPICAL CATCH OF SALMON
Fraser River, British Columbia

THOSE WHO LOSE IN THE GAME OF LIFE

INCIDENTS IN THE DAY'S ROUTINE IN THE OFFICE OF MR. JEROME, DISTRICT ATTORNEY OF NEW YORK COUNTY

BY

ALFRED HODDER

PRIVATE SECRETARY TO MR. JEROME

TO the man in the street the business conducted in the District Attorney's office of the County of New York seems to be one of almost unmitigated severity. There, amongst two millions of people, all of the vice and sin and shame and criminal negligence, when they reach the intensely dramatic point, are brought to be dealt with according to the sense of justice of the community. There you may see the murderer, with the heat of passion in which he committed his crime died out, tranquil and self-possessed; the thief and the swindler, buxom and debonair, with all their wits about them; the blooming young girl, she, too, perhaps, accused of murder, consciously making the most of her graces and powers of allurement. To the man inside the office the dominant note, as the theologians would say, of the business conducted there is not one so much of severity as of pathos.

I do not vouch for the old adage that there is no Irishman so poor that he has not another Irishman living at his expense, but it seems certain that there is no man so degraded that there is not a woman to intercede for him when once he has brought himself into the hands of the ministers of the criminal law; and the girl whose trouble has found her has at least a mother. From the time a criminal is arrested, until he has been pardoned by the Governor or has served out his sentence, his wife or his mother or his sweetheart haunts the District Attorney's office, interrupting the graver business of the day by testimony to the prisoner's virtues and the petitioner's distress. Even in the case of an accused police captain, a prosperous, smartly gowned woman, her ears and bosom radiant with jewels, will come to the District Attorney's office and with tears in her eyes explain to him her own and her husband's poverty.

The labor of the District Attorney today begins at No. 8 Rutgers Street as early in the morning as his Japanese servants are willing to answer a ring at the doorbell. A few mornings since his first client was a neat, meanly clad Jewish woman, who explained with much agitation and gesture that her daughter, aged seventeen, had been abducted. At the close of her story she offered him a ten-dollar note. He afterward ascertained that she was a seamstress earning between fifty cents and a dollar a day. When he refused her money she burst into a passion of weeping and left the house. In a few hours two detectives had found the girl and brought her home, much against her will. In the afternoon the mother paid a visit to the District Attorney's office to give him her thanks. "Oh, sir," she said, "when you would not take my money I did not think you would do anything for me."

On his breakfast table, and later on his desk at the office, he finds letters of which the following may serve as a sample:

NEW YORK, June 4th, 1902.

Hon'ble Attorney Gerome,

DEAR SIR—This is a letter for a respectable Woman writing by a friend for the Benefitt for her familie & Husband to stop the Husband gambling.

This man is going every evening after 8.30 P. M. playing the open game in the back of a Segar store at —— Avenue between 112–113 Street loosing the most of his money he earns. The game he plays is so called 21 with cash money on the table.

Kindly take notice of this above if this plase get pulled you will do good about 20 working mens familie.

Your respectfully

A FRIEND OF HONEST LIFE.

District Attorney.

HONORABLE SIR—Would you take the trouble to find out if the Girl from Brooklyn, that is lost, is in No. —— Park Ave. Often very young girls call there, and don't leave the house before night, then a carriage is coming to take them away, it must be for a certant purpose, and sure not a good one.

District Attorney Mr. Jerome please take interest in this.

I beg you because We live right near there and we see everything.

MRS. ———.

New York, the 4 June, 1902.

28 PRECINCT.
New York, Octr. 19th, 1902.

DEAR MR. JEROME—I hope you will pardon the liberty a few broken harted women takes in sending you thoes few lines hopeing you will do something to Put a stop to the Badness that exists on the East Side, it is far worse than the tenderline and Particularly — street & first Avenue & Avenue E. Their is a salloon on — St. & —— Avenue and it is a disgrace to the city, it is open all day Sundy from five in the morning untill one on Mundy morning. It is full of gamblers & Drinkards all dy and their is nothing but men, woman and children bringing cans all day long. It is the cause of starving poor decent families so we will aske you for God sake to do something to give some relief, their would be no use to speke to the poliece of — St the know it and you will get them there drinkeing late & erly. I have seen a drunken man lying on— street for four howers and not a poliece man ever came along untill a lot of boys draged him away, in fact you would nevr seen a poliece man on Sundy and if the men in the — st station hears of this the will send tips to all the saloons so we trust in God you will do some thing for us. Hopeing you will Pardon us for troubleing you

FROM POOR WOMEN.

June 10, 1902.

Mr. Jerome:

DEAR SIR—I am 17 years old & my Brother & I are the only ones that keep my mother. I make $6 a week & my brother 18—but he spends all his in a gambling room on cor. —th & —— Ave N. E. cor on horses. They are open every day.

Yours truly,
JOSEPH BLANK.

NEW YORK, Oct. 6, 1902.

DEAR MISTER JEROME—my son is a member of the Club —— E. —th St. and he is loosing his monney Knight after Knight and I am afright he will get in trouble. He work for a dry good hose and he is giving me bother about monney he said it was the best crap game in the place around and he owns two games.

A FRIEND.

The ignorance and the helplessness of the writers of these letters must be sufficiently apparent. Not only the District Attorney, but each of his assistants, is obliged all day long to deal face to face with people of the same stamp as the writers of these letters. Indeed, the letters themselves have been chosen amongst the complaints of those to whom it was possible for members of the office to give some relief; there is a parallel line of cases in which it is impossible for members of the office to give any relief whatever. These are cases in which the man who makes the complaint has without any doubt been grossly wronged, but in which no evidence can be ascertained sufficient to convict some particular evildoer. The man who has been injured is naturally and perhaps rightly certain of the person, man or woman, who has made him a victim, and is also naturally ignorant and impatient of the technicalities of the law of evidence. The maxim of the law of evidence is that it is better to acquit ninety-nine guilty men than to convict one innocent man. With this maxim the victims of the ninety-nine who are guilty have little sympathy.

A few weeks since an honest German and his honest German *frau* complained that they had been robbed of $600, their savings for some years. Upon investigation there was no doubt whatever that he had been robbed, and was in consequence in circumstances literally desperate. But there was no evidence whatever at his command or at the command of the District Attorney's office to show who had committed the crime. He insisted that the janitor of the tenement house in which he lived was guilty, on the ground that fresh, crisp bank-notes, such as the complainant had laid away amongst his savings, were found in the janitor's possession. He could not be persuaded that there was in existence a number of crisp, fresh bank-notes other than those which were a part of his savings. After every effort had been made by the District Attorney to discover who had wronged him, he shook his fist in the face of one of the Assistants and said, "By Gott, if you vill not do me justice I vill even take der law into mine own hants, unt it vill be you dot iss guilty."

It was necessary to have him carried to the elevator, his wife weeping and protesting amongst the cortège. To all intents and purposes he had been driven mad by his loss. He was in much the same position as a score of other clients whose misfortunes have put them undisguisedly out of the ranks of the sane.

There is one woman who on an average of once a month writes twenty closely written pages about the genealogy of persons unknown, which are filed in the waste-paper basket, and who sends jewelry of value, which is returned. There is a man in New Jersey who writes twice a week, on wrapping paper, letters of twenty and even fifty folios, mainly in comment upon

the conduct of the President and his Cabinet in matters of international affairs, and in a postscript requests a loan of ten dollars. There is a woman who has a case which no one amongst the officers of three administrations has been able to understand. At a recent date she insisted on explaining her troubles to chance passers-by in the corridor, and emphasized her explanation by wrecking her parasol over the head of the attendant who warned her that she must not block the passage. She also, no doubt, has been the victim of some one's wrong. She also was carried to the elevator. With all sympathy and consideration for the victims of undiscovered crimes, the business of the county must go forward; and, if necessary, kicking men and screaming women must be carried bodily to the street.

Side by side with this thread of pathos in the day's work runs the thread of delight that every virile Anglo-Saxon feels in the hunt and especially in hunting a man. An Assistant District Attorney at the last moment may be almost frightened at his success. One of them now in office recently exclaimed while he was waiting for a verdict: "My God, I am afraid they will find him guilty of murder in the first." But the grim satisfaction in having exercised the skill and force necessary to bring a subtle and ruthless animal to bay appeals to an instinct for the chase which is strong in most men. It is strongest perhaps amongst the detectives. The detective feels a sheer glee in his power and gives the details of his cleverness with a juvenile enthusiasm and a grown man's sense of dramatic climax. He talks about himself as an actor might and takes a frank pleasure in his success, and, indeed, displays much of the technique and many of the talents which make for success on the stage.

"Say, that was a great arrest we pulled off last night," he says to you. Most likely you don't know that he has been detailed to make any arrest whatever. "We went in," he continues, "and bought a drink yesterday" (Sunday) "afternoon, and when we had paid for it I handed the barkeep a warrant for his arrest and said: 'Here is a little piece of paper I want to give you.' When he had got all that was coming to him in the way of information, he said: 'Say, boys, just wait will you till I send upstairs for Charlie to take my place;' and we said, 'Sure, we are not in any hurry; we are doing our best to be polite.' When Charlie came in the barkeep said, 'Take off your coat, Charlie, and get behind the bar; I have been pinched.' And we said, 'Hold on a minute, Charlie, you need not take off your coat—here is a little piece of paper for you, too.' We wanted Charlie. A more disgusted pair of men you never saw. Then they said they would send for Joe, and when Joe came they asked him to take off his coat and go behind the bar. Joe was the last of the three men we wanted. We said he needn't take the trouble to take off his coat, we had a piece of paper for him, too. All three challenged us to give Joe's last name. We didn't know Joe's last name, but we said: 'That's all right, his name is John Doe,' and we handed him a warrant made out for John Doe. They were so stampeded they wouldn't take a chance on getting another of their pals to look after the bar, and they sent for a shoemaker in a cellar next door."

What robs this spirit of the hunt of the element of savagery is the childlike unconsciousness on the part of the prisoner that he has committed a crime. A member of the city government a few days since was examined in the office on the charge of attempted bribery. When he was brought in under arrest he said, "Why, everybody does that; you do it yourself." It is difficult to conceive a more complete picture of injured innocence.

A member of the police department assigned for duty under Mr. Jerome's orders was examined in this office on the charge of having spent a hundred dollars in marked bank-notes. The notes had been passed in his presence in an attempt to blackmail on the part of a public official. The official had been arrested by him and the notes taken from his person and kept in custody by him to serve as evidence at the trial. When he was summoned in a preliminary star-chamber hearing before Mr. Jerome and the Assistant District Attorney who had discovered the loss of the money, he said: "I lost the bills on the way to the station-house. But I have deposited ten other ten-dollar bills with the Property Clerk, and I'll swear that those are the same bills, so that the case will go on all right. There's nobody but us three knows anything about it. I don't see any reason why we can't keep it quiet between ourselves."

It was at once discovered by telephone that he had not deposited ten other ten-dollar bills with the Property Clerk. On the following day it was discovered that he had pawned five of the marked bills in a loan-shop and was in possession of a pawn ticket entitling him to recover possession of the same.

It is the bare truth that during the last ten years the game of life has been played harder and faster in New York City than in even ancient Rome or modern London. In each room in the tier of suites that forms the District Attorney's office a man who has the entrée may lounge and listen by the hour to the examination of witnesses who lay bare the secret life of the city. The newspapers make public the knock-down-and-drag-out cases, the cases in which every effort to hush up a scandal has been made and has failed. In every room in the District Attorney's office, as a man saunters through them, he is a witness to an examination in which half the secret scandals which will never be given to the public are laid bare. Every day in the District Attorney's office there are a score of secrets kept by a half a hundred men that would bring a price in the newspaper market as surely as a gilt-edged bond listed on the Stock Exchange, and the scenes in these examinations are much more dramatic than the scenes in court.

In court both the accused and the witnesses keep a hand on themselves, being restrained by the authority of the Judge in the presence of spectators. In the District Attorney's office they are without restraint; they explain, expostulate, weep and plead as the mood strikes them. Even as I am writing there comes an Assistant fresh from an interview with a policeman whom he has just convicted. "God! the appeal that man made to me has broken me all up. He was as gray in the face and as wet as a dish-rag, and his hands, when he lifted them up to beg and to protest, shivered fit to shake the bones out. He was only a beginner, too. It was all right to pass him up, but he has a wife and five kids, and I promised to look after them and to get him a job when he comes out of Sing Sing. He has a boy of fifteen he was preparing for college, he says, and the kid has got to get out and hustle to support the family. And his eldest girl, still younger, has got to get out and hustle, too. He said, 'Mr. ——, I thought I had a lot of friends before I got into trouble; you are the only man I have found that would lift a hand to help me.'"

Immediately after this narrative came two Assistants fresh from the morgue and the Coroners' courts. "Those Coroners," said one of them, "are great. The Honorable Coroner Blank has just been making a complaint to me. 'Der District Attorney has been daking avay from me my bodies, und you young men, you go down to der house und you turn out the gas and you open the vindow and let all the evidence oudt, so dot I can't tell vhether der suicide has killed himself or not!'" Thereupon a newspaper man in the room spoke up: "I asked one of the Coroners the other day why he didn't hold an inquest in the Blank case. He spread out his hands with a shrug of the shoulders and said, 'I half no body. If I could get a body I vould hold an inquest.' I said to him, 'Say, Coroner, there ought to be a law passed that when a man commits murder he shall be prohibited from taking the body out of the State.' 'Yes, yes,' said the Coroner, 'dot is a good idea. I, too, think there should be such a law!'" And another man present told the story of a Coroner aforetime who asked a physician on the witness stand, "Doctor, vat I vant to ask you is this: I don't vant a scientific disquisition, but just a hand-off opinion. In your judgment is *rigor mortis* a sure sign of death?" I myself had spent the day in the criminal branch of the Supreme Court watching Roland Molineux on the witness stand minute by minute saving his life by his wit and tact and coolness under cross-examination. And that is a picture of the day behind the scenes in the District Attorney's office.

A few nights since at a presentation by Mrs. Patrick Campbell of the "The Second Mrs. Tanqueray," Mr. Jerome said to a member of his staff: "It seems an unnecessary prolongation of the work of the day to sit here. We've been both hearing and seeing this sort of thing since nine o'clock this morning. Let's go to Weber and Fields'."

It is not good for a man to live long in the District Attorney's office. He sees too much of "Mrs. Tanqueray" and too little of Weber and Fields.

THE PROPORTION OF CITY AND COUNTRY POPULATION

REASONS FOR BELIEVING THAT OUR CITIES HAVE REACHED THEIR GREATEST PROPORTIONATE GROWTH, AND THAT HENCEFORTH THE COUNTRY WILL RELATIVELY GAIN RATHER THAN LOSE

BY

FREDERIC AUSTIN OGG

OF INDIANA UNIVERSITY

OUR gravest question of population is summed up in the problem of the city. In the balance of urban against rural population lies the future character of our national life. We are sometimes told that we shall at last be a nation of cities; because since 1800 the proportion of the dwellers in cities of 8,000 people or more to the total population of the country has increased from 4 to 33 per cent. Such cities in 1800 numbered six; in 1900 there were 545 of them. During the recent decade 1880–1890 the urban population increased 61 per cent. while the rural population increased only 14 per cent. During that decade 10,063 townships in various parts of the United States—39 per cent. of the whole number in 1880—actually decreased in population. While Chicago more than doubled, 792 townships in Illinois alone lost in numbers.

Coming to the decade still nearer (1890–1900) there was a decrease of rural population in every one of the North Atlantic States except Rhode Island, Connecticut and Pennsylvania; and the same thing must be said of Ohio, Indiana, Illinois, Nebraska and Kansas. Only one State in the Union—Nebraska—suffered a loss in urban population in the same time.

The population of incorporated places was 41 per cent. of the total population in 1890 and 47 per cent. in 1900. There were eight States in 1900 in which the proportion of urban population was more than two-thirds, and seven others in which it was more than half. Even counting places of only 8,000 or more, the percentage of urban population in Massachusetts was 76; in New York, 68; in New Jersey, 61; in Connecticut, 53; and in five other States between 40 and 50. In view of our notorious inefficiency in municipal government, such facts as these will make us pause. Either we must learn how to govern ourselves properly in cities or we must devise some means of preventing the people from continuing to crowd into them.

The question is, Is there to be a reaction from the city? There is no need to ask whether our cities will actually decline in population—that is quite impossible—but is the rate of increase of urban population to undergo a diminution in favor of the rate for rural population? Many have assured us that such a reaction may be expected. Too often, however, such a prediction has been based merely on a sort of general theory that society moves by actions and reactions and that, given time enough, the people may generally be relied upon to swing from one extreme to the other. The growth of cities has come wholly by reasons of economic conditions—the application of machinery to industry, the rise of the factory system, and the improvement of ways of communication; and, if it is to be checked, forces no less practical must be brought into play.

There are certain reasons which seem to indicate that a reaction is already setting in. The first reason is that our city population is growing considerably slower now than it grew fifteen or twenty years ago. The

Classified sizes of cities	Number of cities	Increase from 1890 to 1900		Increase from 1880 to 1890	
		Number	Per cent.	Number	Per cent.
25,000 - 50,000	83	706,524	33	858,662	68
50,000 - 100,000	40	642,169	31	698,860	57
100,000 - 200,000	19	603,882	33	799,493	79
200,000 - 300,000	8	443,318	28	499,959	47
300,000 - 500,000	5	372,916	27	390,772	40
500,000 - 1,000,000	3	310,401	23	289,016	27
1,000,000 - 2,000,000	2	845,458	39	796,459	59
3,000,000 and over	1	929,988	37	595,716	31

accompanying table will show these facts more specifically.

Other reasons for believing that urban population will grow more slowly in the future are less matter-of-fact, perhaps, but hardly less convincing. Among these is the increased attractiveness of country life due to modern improvements, the better and easier utilization of the land under a more scientific agricultural system, the constantly increasing demand for such food products as are grown by farm labor, and the further extension of facilities for communication and transportation. Country life today in most parts of the United States means something very unlike what it meant a generation ago. Rural mail delivery, telephone service, the consolidation of schools and the provision of public transportation for school children, the cheapness and general circulation of newspapers, magazines and books, the improving of common roads and the multiplication of railroads and electric lines—all these and many other things are revolutionizing the life of the farmer.

It is contended by some that the further introduction of scientific farming will so reduce the number of men needed for agriculture that a constantly increasing surplus will be left to drift to the city. But the advance of science is made to serve the manufacturer even more than the farmer. It has been estimated by an expert in the employ of the Government that agricultural machinery reduces the number of men employed to do a given amount of work to one-third, while manufacturing machinery reduces the number to one-fiftieth.

Another change which will almost inevitably occur along with the application of science to the practical work of agriculture, but which has too often been overlooked, is the growth of intensive farming. Small farms, economically administered, will be the rule in the future. The day is coming when such a thing as a "worn-out" farm will be unknown. Land and its products will become too valuable to permit of further impoverishing of the soil.

Obviously this will mean an increase in rural population and the production of food in greatly increased quantities.

It is true that there must always be a limit to the amount of food products which the world can consume. And it is likewise true that this limit is much more easily reached than is that of the quantity of manufactured goods which may be disposed of. Even if there were nothing to be taken into account but the strictly proportionate increase in food consumption as the number of people to be fed increases, the outlook for agricultural activity would be exceedingly bright. But the growth of wealth and better conditions of living tend to augment in increased proportion the demands upon the farmer. A hundred people in these days consume more than twice what fifty people consumed half a century ago. The very surplus population which we are told must continue forever to gather in the cities must be fed, and it is the farmer who must meet the demand. Then there are the European and Asiatic markets to be considered.

Already it is beginning to be felt that the most serious difficulty in the way of agricultural enterprise in the United States is a scarcity of labor. Even with all the labor-economizing devices and machinery that have been introduced there is yet a need for more workmen. Doubtless the solution of the problem lies in increasing still more the profits and pleasures of rural life.

The city will continue to grow, and grow rapidly. But as time goes on, rural population may be expected to increase relatively as fast as the urban population. More food products and raw materials will be demanded, so that it will be increasingly profitable to belong to the agricultural classes.

What vast room we yet have for increase of our population almost staggers belief. Although it has practically doubled every quarter-century since 1789, the extent of our territory robs this remarkable increase of the ill omens that it would carry in many Asiatic or even European States. Professor Albert Bushnell Hart, of Harvard, some years ago advanced the opinion that the Mississippi Valley alone is capable of supporting 350,000,000 people in comfort. The population of this same region by the census of 1900 was less than 41,000,000. The rate of increase per decade has recently been from 20 to 25 per cent., so that we may expect at least two centuries to elapse before the Mississippi Valley population will have attained Professor Hart's figure. Even then the density will be no greater than the present density of Massachusetts.

THE MAN THAT FAILED

THE SAD FATE OF GENERAL TORAL, WHO COMMANDED THE SPANISH FORCES AT SANTIAGO

BY

THOMAS R. DAWLEY, JR.

IT is a sad story that comes from Spain that General Toral, who surrendered Santiago, has suffered an eclipse of mind. He is the Spanish culprit of the war. I saw him shortly after the surrender. In a drizzling rain he stood in one of the lower streets of Santiago, a water-proof cloak drawn over his shoulders, his Panama hat pulled down in front, taking leave of a group of officers about to go on board the transports for Spain. They were gathered around him in a semicircle.

"Gentlemen," said he in a low voice, "it is not your fault that you find yourselves in this situation. You did not lack courage, you did not lack bravery or energy on the field of battle. You fought valiantly, but we were left without resources, without adequate munitions of war, even without food supplies, and we were obliged to give way to an enemy no braver than you, but better provided with the elements of war. You have all done your duty, and now that you embark for Spain, remember that should circumstances call us together on the other side, and should you need me, you can count upon me as you have in the past."

With these words the Spanish General turned sadly away and the officers slouched on board the ship which was to carry them home with their emaciated, dying soldiers. As the old General with bowed head went up the street I could not restrain my impulse of going up to him and offering him my hand with an expression of sympathy. He grasped it, saying that he felt deeply gratified at my words, and he could only thank the victorious Americans for their kind treatment of him and his officers; and then his words seemed to stick in his throat.

He was the last officer to leave the capitulated city. A few days before his departure I called upon him at his residence. It was a stormy night, and the house was shrouded in darkness. An orderly answered my knocking, and in the gloom told me that the General was ill, but he invited me in and shuffled off after a light. Presently he came back with a lamp and led me into a room in which there was a hammock, a plain board table and a single chair. In the dim light I would not have recognized the General, who lay in the hammock wrapped in a blanket, had he not held out his hand bidding me welcome. He was ill of fever, and, directing the orderly to place the chair close to his hammock, he bade me be seated.

I spent an hour or more with him, in which he asked and answered many questions, gave his views of the war and his opinion of the American soldier. "We Europeans have studied all about European armies," he said; "we have studied and compared them—the spirit and dash of the French, the plodding earnestness of the German, and the sober tenacity of the English, but the Americans we ignored. We never considered you a military people. We were made to believe that you were a nation of shopkeepers and merchants, and that the few soldiers you had were mercenaries with neither discipline nor a knowledge of the rules of war. But the fighting around Santiago has been a revelation. It was nothing like anything we have been taught in the books of the European schools. Your soldiers did not advance upon our positions with the *esprit de corps* of the French, nor with the steady advance in solid rank of the German and the English, but they came as individual units, each man seeming to suit himself how straight and how fast he should come. And they kept coming, firing as they pleased, and our volley-firing seemed to have little or no effect upon them."

Referring to his surrender he said: "Since I accepted your terms and sent my soldiers into camp outside the city, I have lost eight hundred men from the fever; and there are eight hundred more dying. I don't see why," and then hesitating with a far-off look, as he

waved his hand toward the San Juan lines, "it would have been far better to have lost these men in battle."

I inferred that he was going to say that he did not see why he had surrendered, and he now regretted that he had done so; but recovering himself, he added in an explanatory way: "I could not have done otherwise; I did not have ammunition enough to last through another battle, and my soldiers were starved and weak. I had to—I capitulated, but I did not surrender."

General Toral returned to Spain. The populace which witnessed the disembarking of his fever-stricken, emaciated troops at Ferrol proceeded *en masse* to his lodgings and pelted the house with stones, breaking the windows and crying out against him. Arriving at Madrid, he was arrested and thrown into prison, because it is the unwritten law of Spain that an officer who surrenders must die. After an imprisonment of five months and a trial he was released because he was able to show that he was authorized by the Madrid Government to capitulate, but he was sentenced to retirement from the army and prohibited from ever holding office of any kind again.

When the war was all over a New York publishing house conceived the idea that an account of the surrender written by General Toral himself would be interesting and would be of historical value. When the subject was proposed to me I volunteered to undertake the commission of going to Spain after it.

Arriving in Madrid I found few who could tell me anything about the fallen General. At length I found his lodgings. An old woman told me that he had retired to Murcia, a southeastern corner of Spain. I arrived in Murcia after a ride of all night and all day.

Coming down to my breakfast at about eleven o'clock, I fairly ran into the arms of a little Spaniard in civilian attire who recognized me at once. He was Major Langoziaste, Toral's field-aid at Santiago. While the Major was talking to me as though he were glad to see me, his wife appeared.

"I must see you at once," she said stiffly, and bowing, she led the way down the corridor, little Langoziaste looking back, waving his hand and smiling as he said: "We will go and see the General; I know he will be glad to see you." I can only imagine what his wife said to him for receiving a Yankee so joyfully in a public place. There could be no other reason for my appearance there, in the eyes of the people, than to pay the rest of the blood money for which it was supposed Toral had surrendered.

The little Major disappeared as if swallowed by the earth, and though I remained in Murcia more than a week, I was unable to see either him or General Toral. The people treated me kindly and talked with me freely. But many of them believed that the Spanish troops had been surrendered for gold.

One man said: "General Toral escaped the death sentence because he was ably defended, but he is condemned by the Spanish people, and Murcia is the only place in Spain where he can live, because it is his native town."

I called at his house. But my knock was answered by an intelligent girl who declared that the General was not at home. I then wrote him a letter explaining my mission. My letter remained unanswered. That was three years ago. Now the story comes that while the General was wandering around Alhama, a message was delivered to him from the Spanish Government instructing him to draw up a full account of the battles and surrender at Santiago. The old General continued his walk, muttering, "The surrender! the surrender!" and then it was discovered that his reason was unstrung.

It is a sad story, especially when it is believed by a few in a position to know that the responsibility of the surrender was shirked by General Linares, who was in actual command of the Spanish troops at Santiago till their defeat in what is known to the American soldier as the big fight on the hills around the city. A Spanish priest who was a canon of the Santiago Cathedral during the time, assured me in Madrid that Linares had wounded himself slightly in the arm at the close of that day's battle purposely to avoid the responsibility of the surrender which he evidently realized must come. The father said that he saw him brought in from the front carried on a litter as though seriously wounded, but the moment the litter was set down in front of his door he got up and walked upstairs, there being nothing the matter with him except the slight wound in the arm. Arriving in Spain, he was loaded with honors, while poor Toral, upon whom the command of the army devolved, was condemned to disgrace.

A DAY IN THE REGULAR ARMY

THE LIFE OF A PRIVATE CAVALRYMAN FROM REVEILLE TO TAPS IN A WESTERN MILITARY POST

BY

HAMILTON M. HIGDAY

LATE LIBRARIAN U. S. CAVALRY AND FIELD ARTILLERY SCHOOL, FORT RILEY, KANSAS

PRIVATE SMITH of "B Troop," of the —th Cavalry, knew to a certainty it was 5:15 A. M., and that the trumpeter, having blown "First Call" before the barracks, was already stalking toward the flagstaff to send more and nearer blasts down the "line"—the officers' street; and that a few seconds later the echoes would be stirred by new waves of sound.

So Trooper Smith, with half-humorous, half-protesting growl, swung his feet from under the gray army blanket, and his towsled head and undershirt came suddenly upright. All along the row of iron cots in the squad-room springs creaked and the sound of rough waking calls arose: "Git up, y' dog-robber!" "Climb out o' th' bugs!" The soldiers had just ten minutes to dress—trigly and completely, too.

Then, as the last eye of his leggings was corded up, from out on the centre of parade ground came the trumpet corps' resounding salute to the sun—the march—and the instant the first note sounded on the quadrangle, the deep "*boom!*" of the morning gun down behind the guard-house hurled its impact against the round green hills across the river whence came successive reports; then "Reveille," clear and shrill—

"I can't get 'em up—I can't get 'em up—I can't get 'em up in the morning;
I can't get 'em up—I can't get 'em up—I can't get 'em up at all!
Corp'rals worse 'n privates!
Sarjents worse 'n Corp'rals!
Lieut'nants worse 'n Sarjents!
And the Capt'ns the worst of all!"

Down the stairs from the second story squad-rooms and across the main porch swarmed the troopers, coming down upon the brick pavement—straightening a belt here, pulling down a blouse there, stepping automatically into line before the call "Assembly" and the First Sergeant's stentorian "Fall in!" and "Atten-*shown!* Roll-call! D—n it, keep yer faces t' the *front!*" The roll-call proceeded:

AN ARMY PACK TRAIN ON THE MARCH

"Private Allen!"—"Yer-r-r!"
"An'ers'n!"—"Yike!"
"Beale!"—"Yhope!"
"Brown!"—"Yow!"

And so on down the alphabet. At closing the "top" Sergeant "about-faced" and saluted toward the centre of the parade ground with a "Troop B, —th Cav'ry, all present and accounted for, s-i-r!" The answering "All right!" came from the Officer of the Day somewhere on the cinder path toward the flagstaff—a Captain standing straight as a statue and not unlike one as the yellow rays of early sun glinted on scabbard and sword-belt, danced on the reddish leather of polished leggings, and played over his campaign hat and khaki uniform.

At 5:45—it was now summer, and in this season and garrison the "Mess Call" was early—down the stairs clattered eighty or a hundred feet again to breakfast: fried beef-steak, a little tough from overfrying; brown gravy, "too greasy" the cook would have been told had the Captain inspected mess that morning; potatoes, roasted "with their jackets on"; bread, heavy and dark—a healthful and sufficient breakfast, despatched with greater ease than elegance—a judicious combination of the regulation ration issued by the Commissary Department and careful economy of the troop's share of the profits of the post exchange or "canteen."

"Not less than twenty minutes for break-

A MAIN DIVISION
Rapid fire mountain guns leading

AFTER DRILL AND MESS CALL

fast," says the "Blue Book"—U. S. Army Regulations; but the Colonel of this post gives three-quarters of an hour, as any one would find from "General Orders No. 4" in the Sergeant-Major's office over in the Administration Building—the printed schedule of garrison routine, "By Order of Colonel Blank."

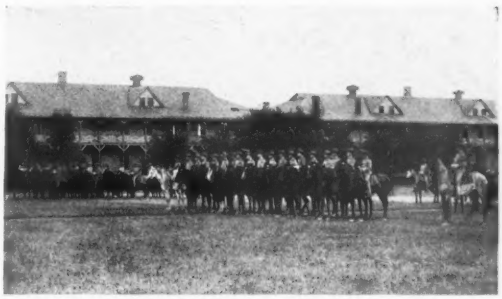
The trumpet again:

"Come all who are able and go to the stable
And get out your horses and give 'em some corn,
For if you don't do it the Col'nel will know it,
And then you will rue it, sure as you're born!"

This in the soldier's language is "Stables." Five minutes later at "Assembly" the line of men before the barracks, this time in white canvas stable clothes, march off to the stables, where every man advances to his numbered horse and proceeds to "police up," feeding, watering and currying. Or perhaps it is "Boots and Saddles," when, in the uniform

designated in "orders," the entire troop march with heavy, quick tread and machinelike uniformity to the stables, saddle up and lead forth the horses into line. "Count fours! Prepare to mount! Mount!" and they are in the saddle for mounted drill, moving forward at the "Howmp!" of the Captain—the unspellable command for any and all things—who has meantime ridden up with clanking saber and rattling spurs.

As the column moves past the parade ground, Trooper Smith catches a glimpse of three squads of "Rookies" (raw recruits) on the quadrangle, each in charge of a Sergeant drillmaster, the nearest one at saber drill—"Port *sabahs!* 'Gainst infantry left *parry!*" come the commands, short and sharp, and miniature lightnings flash where the polished blades catch the glint of the sun. Farther



CAVALRY GUARD MOUNT

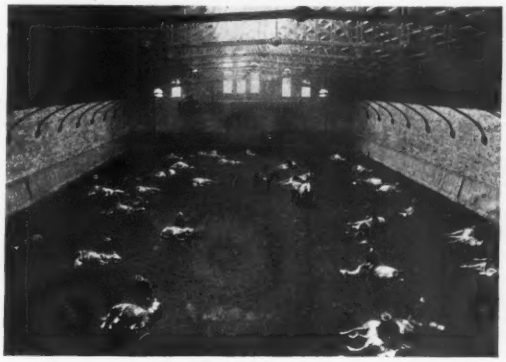
away another Sergeant is swearing volubly and vigorously while a particularly awkward squad blunders through "setting up exercises." On the most distant side the men are spreading out in a skirmish line ("deploying"), running forward with the "rebel yell," and dropping flat as so many frogs in the grass, operating their carbines aimed at imaginary Filipinos "at 500 yards!" and then rising for rapid volley firing.

A mile or two miles, across a bridge, or through a neck of woods, or over a hill road to the drill ground selected rides the troop—perhaps all three or four troops of the cavalry squadron under the eye of the Major—alternating a walk and trot, now and then a gallop.

"Quit jerking that horse!" bellows a noncommissioned officer, riding alongside the column. "Hain't ye got no sense a' *tall?*" And as Trooper Smith is the offending object he closes his lips tightly and flashes a glance of rebellion at the non-com. (a Sergeant, by the three-striped chevrons on his arms) who has "bawled him out" for "yanking" the tossing head of his restive mount. But he dares offer no word of explanation or excuse.

A SQUADRON OF CAVALRY

The rigid rule is—*No talking back.* Trooper Smith has no desire to forfeit a month's pay to the Soldiers' Home at Summary Court in the morning, or to dig up sewer pipes and scrub the guard-house floor with an armed sentry ten feet behind him, for three months.



TRAINING HORSES IN THE RIDING-SCHOOL

FIRING A SIEGE GUN

PRACTISING ON THE RIFLE RANGE

Three hours of the morning are taken up in drill—often two mounted, one dismounted—and the men today are in blue army shirt, khaki trousers, leggings and campaign hat; the commissioned officers alone resplendent in khaki blouse, belt, saber and polished leather leggings. For today the exercise happens to be "monkey drill"—men without equipment, horses without saddle—vaulting, Cossack and backward riding, mounting at gallop; sharp, quick work, exhibiting the splendid horsemanship of the cavalry and the agility and admirable physique of these blue-eyed healthy-faced Anglo-Saxon fellows of the American Army.

Nine o'clock and "Recall," by token of a trumpet blast, which the horses recognize as the signal for return fully as well as the troopers on their backs! At the stables again, tired from drill and the increasing heat of a humid day and glaring sun, horses are to be watered, rubbed down, and the stable "policed up"—the saddles and fittings hung in precise order according to regulation; then the formation "out front" and the march back to the barracks to "wash up," clean and burnish equipment and put clothing in order.

The Captain and his Lieutenants ride off to their quarters for a bath and a rest before "officers' call" at noon, when they report at the Adjutant's office for orders, given orally or filed in pigeonholes.

A SOLDIER'S FUNERAL IN WINTER

At noon out on the parade ground the bugler says:

"Soup-y, soup-y, soup,
Without a single bean;
Pork-y, pork-y, pork,
Without a streak of lean;
Coffee, coffee, coffee,
The meanest ever seen!"

From one o'clock until four is a daily holiday for the soldier except when on guard or "doing fatigue"—a season, however, wherein arms, uniform and man must be kept clean and presentable, bedding aired, and cot-covers rolled in the manner prescribed.

At half-past four the ubiquitous trumpeter is again heard "wind-jamming" out in front of quarters—"Stables" again, and amid groans and oaths and rallying jests the troopers "tumble out" to be in line at assembly call.

Guard mounting is the spectacular performance of the day. Out upon the parade ground in perfect military formation moves the band, the chief musician and his privates —the "oom-pah" man in all his glory and fine raiment. To hear, to see and be seen, if the day be fair, the ladies of the post gather along the "officers' line"; the Major at the Officers' Club leaves his mug of beer and army journal to join them; the Lieutenants postpone the contest at billiards for the same reason, and the Captains come out on the clubhouse porch, tilt back their chairs, with feet on the banisters, to look and listen. Out beneath the flag (which flutters on the staff from "Reveille" and the morning gun to "Retreat" at sunset) stands the Adjutant—the Colonel's representative. Martial airs thrill through the garrison. From the barracks come the guard details, our Trooper Smith among them, marching to music with a surge of blood and a firing of patriotism that the monotony of routine, social isolation and the bumptiousness of officers cannot extinguish. They "left front into line," these men selected by the Sergeant-Major to stand guard during the coming night and day, "order arms" until they are verified and inspected—while the band plays on. Every article of clothing and equipment must be in perfect condition, and the smartest-looking soldier is selected to act as the Colonel's orderly the next day—a desirable duty which Trooper Smith narrowly misses because the cartridges in his belt, rubbed to glisten like silver, are deemed not sufficiently brilliant to outshine the polish on the shoes of Trooper No. 6, who consequently does not have to remain with the others in the guard-house during the night.

At last the band strikes up a march and swings across the parade ground and back again, and then again past the Officer of the Day—this time followed by the new guard in column of platoons led by the Adjutant. Finally in column of fours they proceed to the guard-house preceded by a trumpet corps whose tooting, in contrast with the band music, grates harshly on one's ears, or makes one smile as the mocking chorus of garrison dogs accompanies with yelps and yowls.

Before the guard-house, where the sentries stand on either side of the prisoners (the latter in brown fatigue clothes painted conspicuously "P 9," "P 27," etc., across the back and on the legs), the "old guard" is drawn up. "Atten-*shown!* Present *harms!*" bawls the sergeant of the guard as the blaring trumpeters and heavy treading new guard march past. The guard just mounted salutes the old with guns at the "present," and the Captain or Lieutenant who has been for a day practical commander of the post, as soon as the prisoners are counted and verified with the records, is relieved with his guard by the new Officer of the Day.

Out of the "new guard" Number One, as sentry, day and night (two hours "on" and four "off") marches up and down the beat before the guard-house; Number Two, Number Three, etc., patrol the hay-corral, the stables, the commissary and the quartermaster's storehouse; and mounted patrols ride to and fro through the post until daybreak, challenging after eleven o'clock with a sharp "Halt! Who is there?" all who may be passing, requiring mounted parties to dismount and advance to be recognized.

The old guard has dispersed. On the morrow at seven, when the dreaded "Fatigue Call" sounds, they assemble before the Provost Sergeant, clothed in the fatigue uniform of brown duck, and go where he directs, armed with garden rakes or shovels, some of them in charge of an army wagon and a team of Government mules, to perform "police duty."

After "Mess Call" and supper and near the sunset hour, "Retreat" brings all enlisted men to "attention" and "parade rest" before the barracks and guard-house; the evening gun echoes along the hills, and all officers stand at "attention" with bared head while

the strains of "The Star-Spangled Banner" rise on the air and Old Glory is being hauled down.

As dusk comes on happy children romp on the lawns "down the line"; along the drives floats silvery and deep-toned laughter accompanied by the clatter of horses' hoofs and the ring of spurred heels on stone walks.

But Trooper Smith tries not to hear such sounds. It is a world not open to him. The Chinese Wall of rank is an impassable barrier between him and the "West Point aristocracy." He is treated by his officers as though contact were contamination, and his American soul fills with bitterness at the tyranny of army "discipline." He therefore bets the drinks with his "bunkies" on the outcome of the Sunday baseball match between rival troop teams, or gossips about a recent row in "Mike's place"—one of the typical, parasitic dens in the nearby town that reaps a monthly harvest of soldiers' squanderings of their $13 pay. He listens to the click of billiard balls in the barracks poolroom; he tells the corporal he wishes to h—l he were tramping around down town——

"Attention!"

Trooper Smith springs to his feet and stands rigid at attention with the other enlisted men on the guard-house porch. An officer is passing. Sentry Number One presents his piece and, as the salute is acknowledged by the officer, resumes his march.

At half-past nine as "Tattoo" (lights out) is blown, Trooper Smith is marching from the guard-house with a "relief party"; and he is sauntering to and fro along a solitary beat himself when "Call to Quarters" and a few minutes later "Taps" are sounded—eleven o'clock, and all men not then to be found in quarters or on pass or duty are absent without leave and subject to military punishment.

"Five months and thirteen days more," mutters Trooper Smith as he changes his carbine to the other shoulder and looks toward the arc of light where the belated moon is rising, "—and a breakfast!"

AMERICAN MANUFACTURES

THE ADVANCE OF INDUSTRY IN THE UNITED STATES AND THE DIRECTION IT IS TAKING

BY

EDWARD D. JONES

ASSISTANT PROFESSOR OF COMMERCE AND INDUSTRY IN THE UNIVERSITY OF MICHIGAN

THE Twelfth Census marks the close of the first complete century of manufactures in the United States. It will thus become the most important statistical basis by which will be measured the future advancement of American industry. It is with these words that the final report of the Twelfth Census on manufactures begins. It might have been added that the Twelfth Census is the first to occur since the United States has become distinctly a manufacturing nation and has produced a surplus of manufactured goods with which it has entered the world's trade to acquire foreign markets. Our industries have grown to giant size, and we have begun to feel and act upon commercial policies which have radically altered our relations both to European nations and to undeveloped countries and peoples.

HISTORY

In 1791, when Alexander Hamilton submitted his celebrated "Report on Manufactures" to Congress, he was able to refer to the household system of manufacture by means of which each family unit supplied many of its own needs; and he described the remarkable development of this type of manufacture in southern New England, where considerable quantities of coarse cloth, clothing and nails were produced. In addition to this, some twenty industries were mentioned which had reached a considerable development, involving special buildings, the division of labor, the ingathering of raw materials from distant localities and the distribution of the manufactured articles throughout the States. Among these were tanning, iron manufacture, shipbuilding and furniture manufacture, the mak-

ing of cordage, brick, distilled liquors, paper, wool, hats, whale oil and candles, copper utensils, tobacco, turpentine, flour, etc.

While this was a respectable beginning, the chief task of the American people was to be for at least five decades to push forward the frontier.

Up to 1840 this work went on. By that time compact settlement had reached the Mississippi River, and the further growth of population required the building of railways and the establishment of manufactures. By 1850 the chief forms of labor-saving agricultural implements of American origin were introduced and began their work of liberating an increasing proportion of the population from agriculture. The Civil War increased the need of the country for manufactured articles, and, accompanied as it was by a high tariff to provide Government revenue, provided a powerful impulse to develop home manufactures. Down to 1880 agriculture was the chief source of wealth in this country. The last two censuses have shown manufacture to be dominant. In 1900 the value of agricultural products was four and seven-tenths billions of dollars; the net value of manufactured products was five and nine-tenths billions.

We may group our industrial history into periods, therefore, roughly as follows:

1609—1789	Colonial period.
1790—1840	Period of Western settlement. Agriculture for home consumption except cotton.
1840—1880	Period of agricultural dominance. Large export of raw materials.
1880—1900	Dominance of manufactures for home use.
1900	Period of foreign trade in manufactures as well as raw materials.

GENERAL COMPARISONS

To gather some of the chief results of the recent census investigation into a few sentences we may say that when we speak of "American manufactures" we mean 512,339 establishments, using $9,835,086,909 of capital, and involving the labor of 397,174 officials and clerks and 5,316,802 wage earners. This vast equipment consumes $7,348,144,755 worth of raw materials annually and makes out of the same manufactured products worth altogether $13,014,287,498. These figures all show a healthy increase over those of 1890. There are forty-four per cent. more establishments now than then; fifty per cent. more capital is used; a fourth more wage earners are employed; and the annual value of the gross product is forty per cent. more than in 1890.

Our rank among the manufacturing nations of the world is first, for, according to the estimates of the late Mr. Mulhall, we produce about half as much as all of Europe combined. The United Kingdom ranks second, Germany third, France fourth and Austria-Hungary fifth.

The significance of $13,000,000,000, the value of the manufactured articles produced in 1900, is difficult to realize. It is nine and one-third times the authorized capitalization of the greatest corporation on earth, the United States Steel Corporation. It is one-fifth of the true value of all real estate and personal property in the United States reported by the census of 1890, or about the value of New York and Pennsylvania combined at that time. So great an annual product has been produced by our manufacturing establishments only in recent years. The product of 1890 was $9,372,437,283, that of 1880 $5,369,579,191, that of 1850 but $1,019,106,616.

In 1810 the manufactured goods produced in this country were worth $27.58 per capita of the population, or $165.48 for the average family. In 1860 manufactures were worth $60.06 per capita, or $318.32 for the average-sized family of that period. In 1890 the per capita value was $149.72, or for a family of 4.9 persons $733.63. In 1900 the per capita value of manufactured goods was $172.21, or $809.39 for the average family of 4.7 persons.

CLASSIFICATION OF ESTABLISHMENTS

There are three ways in which manufacturing establishments may be classified:

1. According to the general economic class to which they belong.

The 512,254 establishments considered by the census as "manufacturing establishments," in the strict meaning of the term, are divided into:

Household industries and repairing	215,814
Manufacturing—other	296,440
To these we may add small establishments producing annually goods valued at less than $500	127,419
Government establishments	138
Educational, charitable and penal establishments	383

2. The second classification of establish-

ments is according to the form of organization employed. It is as follows:

Individual ownership	372,703
Partnership	96,715
Company or corporation	40,743
Coöperative association	1,765
Miscellaneous	174

The corporation is the form in which the larger businesses are usually organized, and controls 59.5 per cent. of the product. Coöperative associations are confined to the manufacture of butter, cheese and condensed milk.

3. The third classification is according to industry. The Twelfth Census has given us for the first time a carefully digested grouping of manufactures. It involves fifteen headings and is as follows:

(1) Food and kindred products, (2) textiles, (3) iron and steel, (4) lumber, (5) leather, (6) paper and printing, (7) liquor and beverages, (8) chemicals, (9) clay, glass and stone, (10) metals other than iron and steel, (11) tobacco, (12) vehicles for land use, (13) shipbuilding, (14) miscellaneous, (15) hand trades. Of these classes the most numerous, excepting the hand trades, is the first, "food and kindred products," with 61,302 establishments. The least numerous class of institutions is that for shipbuilding, in which there are 1,116.

THE MANUFACTURING POPULATION

The statistics show that 29,000,000 persons over ten years of age are engaged in productive industry. A little over a third of these are in agriculture, a fifth are in domestic and personal service, a fifth are in trade and transportation (16.4 per cent.) and the professions (4.3 per cent.) combined, and a fourth are in manufactures and the mechanical pursuits, including mining.

To this latter fourth belong the 5,713,976 persons engaged in manufacture. In the last twenty years the number of persons in professions, trade and transportation and manufacture has increased relatively. The number of persons in agriculture has decreased relatively. The domestic and personal service class has remained constant.

The proportion of men, women and children in manufacturing establishments is such that if a given establishment employing 100 persons desired the typical division of men, women and children, it would be obliged to employ seventy-seven men over sixteen years of age, twenty women over sixteen and three children or young persons under sixteen.

POWER

Half of our manufacturing institutions use power of some sort to supplement hand labor. So liberally and skilfully is power used in the United States that the average output per employee is between three and five times what it is in England. The most prominent fact in the evolution of sources and forms of power is the increase in the use of electricity.

GROWTH OF LARGE ESTABLISHMENTS

The census shows the increase in the size of plants by showing that, while the product of manufacture has been increasing in almost all lines, the number of establishments has been declining in many of them. There was in 1900 a smaller number of establishments than in 1890 manufacturing agricultural implements, boots and shoes, carpets, glass, iron and steel, leather, woolens and the products of slaughtering and meat-packing; nevertheless, in each of these industries the average capital, the average number of employees and the average product per establishment increased and the total product of each of these industries increased.

A more direct but not more positive proof of this tendency is shown by the enumeration of large establishments. In 1900 there were 452 plants in each of which over 1,000 employees worked. Of these 120 were in textile manufacture (one in New Hampshire employing 7,268 persons), 103 were in iron and steel manufacture (one in Ohio having 7,477 persons), forty-eight were in vehicle manufacture, twenty-nine in food products, twenty in metals other than iron and steel and 132 in miscellaneous lines.

Turning to the question of industrial combinations, we find some interesting statistics in the census. A list of 185 such organizations is presented. They controlled 2,040 plants, possessed a combined capital of $1,436,625,910, employed 400,000 wage earners and 24,640 officials, and manufactured products annually valued at $1,667,350,949. That is to say, 8.4 per cent. of the wage earners engaged in manufacturing in America were employed by these combinations and 14.1 per cent. of the value of our manufactures originated with them. The census report does not include the United States Steel Corporation nor any other combination organized during or since the census year. The steel corporation is largely cov-

ered by the above figures, however, since most of its constituent companies rank as combinations. The great dividend payers among the "trusts" in 1900 were the Standard Oil Company, American Steel and Wire Company, Federal Steel Company, American Sugar Refining Company, Amalgamated Copper Company, Pullman Company, American Tobacco Company, Continental Tobacco Company and the United States Leather Company.

LOCALIZATION OF MANUFACTURES

The industries of the United States are most of them strongly localized in certain regions. This tendency to develop a territorial division of labor has always been marked in this country, in agriculture as well as in manufactures. The causes which lead to the location of industry in certain places are enumerated by the census:

1. *Nearness to materials.* This is illustrated by the oyster canning of Baltimore.

2. *Nearness to market.* The agricultural implement manufacturers of Chicago find their best market in the region which is tributary to that city.

3. *Water power.* Fall River, Mass., with its textile manufacture, Cohoes, N. Y., with its knitting industry, and Niagara Falls, with its electro-chemical industries, have resulted from the utilization of water power.

4. *Favorable climate.* The Piedmont section of the South attracts cotton mills, not only because of its nearness to materials and its water powers, but because of its favorable climate.

5. *Supply of labor.* The garment trades are largely monopolized by New York City, Philadelphia and other large cities on the coast because there a large population of foreign birth, with low standards of living, furnish adequate supplies of cheap labor.

6. *Capital available for investment in manufacture.* When the whaling industry declined, New Bedford, which had become wealthy by means of it and was ranked as one of the richest cities in the United States, put considerable of its capital into cotton manufacturing. The city of Chicago was not able to surpass Cincinnati as the centre of the pork-packing industry in the West until the local banks acquired enough money to aid the packers in carrying the enormous financial load of buying the raw materials, which for that business constitute about 75 per cent. of the value of the finished product.

7. *Momentum of an early start.* Sir Wm. Johnston early brought glovers from England to Johnstown, N. Y., and started the industry for which that city and Amsterdam and Gloversville are now noted. Had the celebrated "shoemaker of Lynn" settled in a neighboring village Lynn might not now signify shoes wherever the name is heard.

If we examine a map showing the location of American manufactures we shall observe that they are markedly concentrated along the Atlantic seaboard, from the middle of Maine to the latitude of Baltimore, and covering a region extending perhaps 100 miles back from the coast. West of this an irregular belt of country, including middle New York, western Pennsylvania and northeastern Ohio, stands out prominently. Passing still farther west we find the manufacturers not so evenly distributed, but rather concentrated at certain points, such as Cincinnati, Louisville, the gas belt of Indiana, Chicago, Milwaukee, St. Louis, Minneapolis, Kansas City and Omaha. The South shows a large number of small, rather isolated manufacturing localities. These occur most frequently upon the Piedmont plateau, from southern Virginia to northern Alabama. In the Rocky Mountain States and the region west of them, five centres stand out separated from one another by wide intervals of undeveloped country. They are the middle portion of Colorado, Salt Lake Valley, the Butte region of Montana, the Puget Sound and Columbia River cities, and San Francisco, with the adjacent cities from Sacramento to Alameda.

The national centre of manufactures has been fixed at a point east of the middle of Ohio, about twenty-five miles southeast of Mansfield. It has moved west only about forty miles in ten years. The centre of population lies 200 miles southwest of this, at a point about eight miles from Columbus, Indiana.

California is first in preserving vegetables and fruits, vinous liquors, lead smelting and refining.

Connecticut is first in ammunition, brassware, clocks, corsets, cutlery, needles and pins and hardware.

New York is first in thirty-one industries, among which are butter and cheese, gloves, factory-made clothing, furniture, chemicals,

hosiery, malt liquors, lithographing, printing and publishing, millinery and lace goods, paper and pulp, patent medicines, soap and candles, sugar refining, cigars and cigarettes.

Illinois is first in the manufacture of agricultural implements, bicycles, cars, glucose, and distilled liquors, and in slaughtering and meat packing.

Wisconsin is first in lumber and timber products.

Minnesota leads in flouring and grist mills.

Texas leads in cotton ginning and the manufacture of products from cotton seed.

Some manufactures are limited to very restricted areas, a group of States or a single State or even a portion of a State confining them. The most highly concentrated industry is the making of collars and cuffs, of which 99.6 per cent. is within New York State and 85.3 per cent. is in the single city of Troy.

The tendency to centralize industry has given rise to cities which are chiefly devoted to one occupation. The city most wholly given up to one thing is South Omaha: 89.9 per cent. of the products of this city are the output of the great packing houses located there. A list of cities of 20,000 and over in population, in each of which 40 per cent. or over of the industrial products belong to one branch of manufacture, is as follows:

Shoes—Brockton, Haverhill, Lynn.

Agricultural Implements—Springfield, O.

Collars and Cuffs—Troy.

Cotton Goods—Warwick, R. I., Fall River, New Bedford, Lewiston, Me., Manchester, N. H.

Fur Hats—Bethel, Conn., Danbury, Conn., Orange, N. J.

Glass—Millville, N. J., Tarentum, Pa., Charleroi, Pa.

Knit Goods—Cohoes.

Iron—McKeesport, Youngstown, Johnstown, Pa., New Castle, Joliet, Pittsburg, Trenton.

Jewelry—North Attleboro, Attleboro.

Gloves—Gloversville, N. Y., Johnstown, N. Y.,

Pottery—East Liverpool, O.

Silk—West Hoboken and Paterson, N. J.

Slaughtering and Meat Packing—South Omaha, Kansas City, Kan., St. Joseph.

CITIES

About one-half of the manufactures of the United States are turned out in our 100 largest cities. These cities contain 23 per cent. of the population. About two-thirds of these products come from the 209 cities having over 20,000 population. The greatest concentration of a manufacture in cities is found in the case of men's and women's clothing, hats and caps, cars, umbrellas and canes, lithographing and engraving. The smallest degree of concentration is found in the case of flour and grist mills, distilled liquors and brick and tile.

New York City is most cosmopolitan in its manufactures, exhibiting the greatest variety of them, and having a number of establishments which are the only ones of their kind in the country. In 1900 there were 39,776 manufactories in New York City, employing $9,250,000 capital and 500,000 persons, turning out goods annually to the value of $1,371,000,000. The most numerous class of establishments in the city was for custom work and repairing of boots and shoes, of which there were 3,341. There were more than 1,000 establishments each for the manufacture of cigars, women's clothing, dressmaking, carpentering, men's clothing, and also for plumbing, painting and blacksmithing. There was only one establishment each for the manufacture of bells, felt goods, firearms, leather board and car-fare registers.

ACHIEVEMENTS AND THE OUTLOOK

The general causes which have made us a great manufacturing nation and the advantages which we now possess have been placed under five headings:

1. *Agricultural resources.*

2. *Mineral resources.* It is plain that a country which produces nine-tenths of the world's cotton, one-third of its coal, one-fourth of its iron ore and one-half of its copper and a similar generous share of many other things, such as lumber, grain, hides and petroleum, has a great advantage in the matter of raw materials upon which to set labor and capital at work.

3. *Transportation facilities.* These include the remnants of a neglected canal system, a magnificent but scarcely used system of navigable rivers amounting to 18,000 miles, and a highly important system of Great Lakes waterways extending for 1,000 miles and carrying a tonnage "equal to nearly 40 per cent. of that of the entire railroad system of the United States." Our railway system, con-

structed with great rapidity between 1860 and 1880, is now over a third of that of the world. In 1899 the total length was 189,295 miles, as against 172,621 in Europe, and the cost of moving goods was less here than in Europe, being on the average less than six mills for carrying one ton a distance of one mile.

4. *Freedom of interstate commerce.*
5. *Freedom from tradition.*

As an example of American ingenuity we may cite the invention of the system of interchangeable parts, which has made possible the use of complex machinery in agriculture or other industries at a distance from machine shops or the point of original manufacture. Activity, skill and willingness characterize the best type of American workmen, and this willingness is shown, in part, by a readiness to pack bag and baggage and move to those places where manufacture can be carried on most economically, especially if it be to a large city. The organizing ability of American capitalists cannot be doubted. There is scarcely an industry upon which the peculiar genius of the American has not wrought an effect.

In food manufacture we began with the slowly revolving millstone, but Oliver Evans originated the system of automatic conveyors now in use. When later this was coupled with the middlings purifier, also of American origin, and the Hungarian roller process in a modified form, the modern mill first became a reality. Here the factory system was first applied to the making of cheese and butter, resulting in the cheese factory and creamery. An instance of a wonderful application of machinery to a complex process is afforded by our slaughtering and meat-packing establishments. While the production of beef extract in South America is reputed to be one of the most wasteful industries in existence, involving the destruction of an entire carcass of beef to produce a few pounds of extract, the American method with beef and pork products is based upon the utmost despatch through the division of labor, continuous refrigeration from factory to consumer, and the utilization of every product so that there is no waste. It has been said that the packer gets everything out of the hog but its squeal, and this he gets out of the public.

In textile manufacture we are now the second nation in the world in the number of cotton spindles operated, and first in the amount of cotton fiber used.

In iron and steel manufacture we have passed our chief rival, Great Britain, several years since, and now English ironmasters who visit us say that nowhere in the world are labor-saving devices so masterfully designed and employed as here. In the using of steel we are quite as original. To this the heavy rolling-stock and rails and bridges of American railways testify. Here structural steel was first employed in buildings. The structures into which the first girders went are still standing—Cooper Union and Harper's Publishing House in New York City. An enormous demand for iron and steel is created for agricultural and mining and manufacturing machinery and also for electrical equipments and gas and water pipe. Nowhere are stoves and ranges made so large and beautiful as here, and nowhere is tin plate used so lavishly. In lumber and leather and paper and other lines the record is similarly encouraging.

There are some things lacking, however, some lines of effort along which we have not progressed as far as we might have wished. We do not yet convert into flour all the breadstuffs we export. This is partly due to foreign tariffs on flour. We have never developed the manufacture of linen beyond the coarsest kinds of toweling. The difficulty with this industry is that the retting of flax must be done by skilful, patient agriculturalists, willing to work for small wages; and American farmers are neither skilful nor cheap laborers at this task.

While in steel shipbuilding the construction of our own navy has been a worthy achievement, we have contributed little to the steel tonnage used in international trade, and this is true not so much because ships cannot be built well and reasonably here as because the cost of operating them with American seamen is prohibitive and is not counterbalanced by liberal subsidies.

True, as a manufacturing people we have rather made a hobby of "production on a large scale," and "quick returns," and "machine methods." We have perhaps overrated quantity and cheapness of price, and undervalued solidity and durability of wares and subdued colors and correct proportions combined with simplicity and honesty of material beneath the surface. These are the natural defects of a people accustomed

to dealing chiefly in raw materials, among whom wages are high and life is lived fast. Machinery must always be excepted from this criticism. That is a means to an end, and hurries us on to our goal. We are more exacting in the choice of means than we are discriminating in the choice of ends themselves. To put this in the phraseology of the economist, producers' goods maintain a higher standard than consumers' goods. We are more proficient in the process of wealth production than in living the ideal life to which wealth is intended to minister. If we could so simplify life as to gain opportunity to examine things closely, we might learn to appreciate them when well done, and we might then find time to make things better.

AMERICANISM FOR BRITISH TRADE-UNIONS

WHY I BROUGHT A COMMISSION OF BRITISH LABOR LEADERS TO STUDY AMERICAN INDUSTRIES — WHAT GREAT BRITAIN CAN LEARN FROM THE UNITED STATES — THE HIGH QUALITY OF AMERICAN WORKMEN — A SUGGESTION TOWARD SOLVING THE LABOR PROBLEM

BY

ALFRED MOSELY, C. M. G.

IT has been my fortune of late, both in England and in the United States, to be frequently asked my reasons for bringing a party of English trade-union representatives across the water to study American industries and American labor conditions. They consist, as these pages will show, of facts that cannot be blinked and of hopes which promise fulfilment.

Years ago in the gold and diamond fields of South Africa I met, one after another, a little army of American engineers. Mr. Gardiner Williams I ran across by chance one afternoon at the spot that afterward became the Johannesberg gold fields, standing beside his outspanned oxen, just ready to make camp. I met the late Mr. Louis Seymour when he came to the Colony to work for De Beers at $2,000 a year—plucky Louis Seymour, the best engineer that America ever sent abroad, who rose by his efforts to a salary of $50,000 a year, and only a few years ago, after zealous engineering work in the war, died a brave death at Sand River, defending one of the bridges against attack by the Boers and in the act of leading his men to cover. After him came Perkins and Jennings and Hammond and others, all Americans. Beneath the hands and brains of these men the wealth of South Africa grew. The gold mines and the diamond mines, which had never paid before, began to pay beyond all expectation. Wherever things were accomplished there were the Americans. I began to wonder, as time went on, what manner of country it was that produced such able, level-headed, efficient men; and accordingly five years ago I visited the United States and traveled throughout its breadth, daily becoming better aware of the methods by which the country is making its marvelous success.

Soon after my return events of world-wide importance began to shape themselves and take on unmistakable import. The United States leaped to the position of the leading exporting nation of the world; and Britain, its industries slowly recovering from the effects of the costly engineers' strike, its whole internal development checked by the war in South Africa, showed signs of industrial crystallization. The United States was, and is, forging ahead with a rapidity unprecedented in the history of nations. Britain was, and is, advancing far too slowly for its own economic safety in the rush of twentieth-century competition. For the United States, with all its vast resources in the way of foodstuffs, is no longer an agricultural nation, but a manufacturing nation also, and in this respect a competitor of Britain. With a vast gain in the aggregate production under each of these heads, the proportion of exported

goods from the United States has changed thus in thirty years:

	Agricultural Products Per cent.	Manufactures Per cent.	Others Per cent.
1879–1881....	77	16½	6½
1899–1901....	63⅓	29½	7

The export of manufactures alone grew from an average of £40,000,000 in the years 1889–1891 to an average of £82,000,000 in the years 1899–1901, an increase of over fifty per cent. in a decade, while the increase of the United Kingdom was but nominal. Meanwhile the population of the United States increases twice as fast as the population of Britain; and its resources in foodstuffs, coal, iron, oil, copper and many other imperative necessities of modern industry are vastly greater.

These last particulars make it clear that the United States is destined to hold the first rank among the producing nations of the world. In the matter of manufactures, on the other hand, it has not been clear to me that there has been any divine dispensation except the law that "God helps those who help themselves," granting the United States a special advantage over the United Kingdom. At the same time nothing was clearer to me after my first visit than that, except in ship-building, the United States at present does possess an advantage. I have been able to perceive a better spirit pervading industry, both among employers and employees, than prevails at home, where employers ascribe the backwardness of British industry to the oppressive rules of the trade-unions, and the unions ascribe it to the blind unprogressiveness of employers. The better spirit in the United States has led to better methods than ours. Accordingly, recalling what I had seen of American methods in South Africa and in the States, and viewing with some sincere alarm the condition into which British industry had fallen, I endeavored to evolve a plan whereby American methods could be introduced into Britain to the lasting good of its economic well-being.

By far the best suggestion that presented itself was to invite the British trade-unions to select representatives, one from each, to form a commission for the purpose of studying American industries and the condition of American workmen, in the hope of discovering the causes of American success. I thoroughly believe in trade-unions properly managed; and I believe that, with all their mistakes, the British trade-unions take a patriotic interest in British industry. If these representatives, so the matter presented itself, should find American workmen living as well as British workmen, or better, and yet producing a greater amount per capita, I had confidence they would disseminate among their associates on their return a spirit of emulation. If they should find that American employers show a keener, up-to-date spirit than English employers—as I am convinced they do—I had confidence that the agitation they might arouse would put the blame of British industrial backwardness where it should rest—on the shoulders of employers; and the employers, I hoped, would rouse themselves to proper efforts. If public opinion needed stirring up on such matters as public education—for I believe that the mainspring of American success is American public education—I felt that the demand of these men, representatives of the working people, would be heeded as perhaps a demand from any other class would not.

I came to the United States, therefore, to arrange for the reception of the commissioners and to seek aid in our enterprise. On returning I set to work to find the largest unions and to discover the most fitting men to invite. I then issued invitations. Ambassador Choate provided me with letters of introduction to Mr. Carnegie, Mr. Schwab, Bishop Potter, Mr. Morris K. Jesup, Mr. Abram Hewitt, Mayor Low of New York, and many other representative Americans. Bishop Potter brought me into contact with the Civic Federation and the American Federation of Labor, and these bodies, as well as many large employers, offered their assistance to facilitate the inquiries of the commission. Thus labor and capital, and the Civic Federation representing the best spirit of both, extended to the commission a typical American hospitality.

Meanwhile the commission was forming at home. Most of the unions at once accepted the invitation and elected in most cases their General Secretary as representative. There was, of course, some misunderstanding, some evidence of the feeling that has delayed the progress of Great Britain, expressed in the thought, "We have nothing to learn from America." I received many letters of which the following is a type:

FOLKESTONE.

Dear Sir: Please excuse the liberty I have taken in writing to you, but speaking as a mechanic I think it would be a waste of time and money to go to America for what we can do here as well if we are given a chance—at least, the writer of this is open to take on anybody from America or anywhere else. The reason why the American workmen succeed is because they have the desire for it. As far as I am concerned, I should consider it a disgrace to say I went out there to learn anything; the only way to do it would be to help them here that have a desire to get on. There are such workmen here, but they are simply smothered by shoddy mechanics who do not want to know while they can get the same money as those do who try to get on. In conclusion I beg to say I do not want any help myself, but mean to fight it out alone because I have been told it's no use trying. I am well known in Folkestone as second to none in my own trade—or anything else. I have the tools to work with, because it's not the tools but what is behind them, the desire to do it—and for so doing I am called a ——— and a ——— because I will try to go ahead. I am fighting the patent office single-handed, including the cycle makers who have been boycotting me and other people because we will not ride a hash-up of what came out in 1842 and a death-trap. When I can get a few pounds together I will go to America, having given up all hopes of doing anything here.

Yours respectfully,
J. E———

This writer was unusually incoherent, but he phrased, with some basis of truth, the idea that the British workman has little to learn from the American. Yet he phrased it without knowing whether it were true or not, and without recalling that just such a trip might result in removing the "smother of shoddy mechanics"; and this insular self-sufficiency colored more than one mind, I found from my correspondence. As the unions, however, were glad to send their representatives to see if anything might be learned, the commission started, each man pledged to study conditions carefully and answer fully on his return questions like the following:

1. Is the American lad better equipped by early training and education for his work than the English lad?

2. If yes, what changes would you suggest in the English system of education for the working classes?

3. What are the hours of work in your trade in America, and how do they compare with the hours in England?

4. Does the American workman do more or less in an hour, on the average, than the English workman?

5. When skilled workers on piece-work increase the output per man by their own efficiency, do American employers cut down wages so as to prevent a man earning more than a certain amount?

6. Where weekly wages are paid—

(*a*) Do the men show any anxiety to do their best and to give a fair day's work for a fair day's pay?

(*b*) On this system do personal energy and initiative meet with a due reward?

7. Are suggestions for improvements made by the employers, the introduction of labor-saving appliances and of up-to-date machines welcomed by the men or the reverse?

8. Are suggestions for improvements made by the workmen welcomed and rewarded by the employers?

9. (*a*) Do the workmen attend on a larger number of machines than in England?

(*b*) If yes, does the system benefit both employer and workmen, or does either side reap an unfair advantage from it?

10. Is the American workman capable of exercising initiative and of working without frequent and detailed directions? How does he compare with the English workman in this respect?

11. Does the American workman exert himself at times of special pressure, and at such times do overwork cheerfully? How does his overtime output compare with the output of the normal day and how does he in these respects compare with the English workman?

12. Are the American employers more accessible to their men than English employers?

13. Speaking generally, are there greater opportunities for the working-man to rise in America than in England?

14. How far is greater output in American factories due to

(*a*) Longer hours of work?

(*b*) Greater speed at which the machinery is run?

15. Are there any points in American practice which should in your opinion be imitated in English factories?

16. (*a*) Are the American workers better fed than the English?

(*b*) How does the price of food in America compare with that in England?

17. (*a*) Are the American workers better clothed than the English?

(*b*) How does the price of clothes in America compare with that in England?

18. (*a*) Are the American workers better housed than the English?

(*b*) How does rent in America compare with rent in England?

(*c*) Do more workers, relatively, own the houses they live in than is the case in England? If yes, to what circumstances do you attribute this?

19. How does the average wage in your trade in America, *expressed in money*, compare with the average wage in England?

20. How does the *value* of the American wage compare with that of the English, *cost of living being taken into account?*

21. Is it true that the American working-man does a larger amount of work in early manhood than the English, but that he deteriorates young, and that his working years are shortened?

22. Is it true that the American workman is thrown out of work at an early age?

23. (*a*) Is it true that the average life of the American workman is shorter than that of the English workman?

(*b*) If yes, is this due to overstrain, less healthful climate, or to some other cause?

24. Are a larger or smaller proportion of American working-men dependent on the public purse than is the case in England?

25. Do the children and friends of American working-men who are either past work or incapacitated by ill-health or accident help them to a greater extent than is the case in England? If yes, to what do you attribute the difference?

26. Do you consider the general conditions of life of the workman better in America than in England? In what respects might American examples be copied so as to improve the conditions of life in England?

The commission has now completed its tour. It was accompanied throughout the journey by Mr. Marcus M. Marks, President of the National Association of Clothing Manufacturers. Mr. S. B. Donnelly, formerly President of the International Typographical Union, gave welcome service to the commission; and manufacturers and trade-union representatives in the various cities we visited gave us every assistance in securing information. The party have now returned to England, where they will prepare reports on what they have learned, to be disseminated in pamphlet form among the members of their respective unions. No doubt some of them will also give lectures illustrated by photographic lantern slides secured by Mr. E. F. Keller on the trip for this especial purpose. Whatever good may be accomplished, at all events there are possibilities for good in the propaganda these men will disseminate, for not one has failed to mark phases of American activity that might well be put into practice at home. I cannot here set forth the concrete discoveries made by the commission without forestalling their reports; but traveling with them I have had several ideas and contrasts driven home to me with resistless force.

Britain suffers first of all for lack of what I find to be the crowning glory of American civilization—a highly developed system of public education. British children, it is true, have primary school opportunities, but only the few who win scholarships may gain a high school education free, and this only because of endowments. Only the few selected from the high schools for scholarships may have free university training. In the United States, on the other hand, there is a school on every corner; the towns, the cities and the States take so profound a pride in their systems of free public education that no American boy or girl lacks an education through the fault of the community. Never can Britain equal the United States in natural resources, the first element of this country's greatness; but it can establish an educational system like the one that furnishes the second element. And it should—for if I were asked why American employers are "up to date" and American workmen efficient, I should answer, "The United States has excellent public schools, and its people make use of them."

In the United States, furthermore, to make another point, the man with capital is eager to invest that capital in productive enterprises. There is not the same readiness on the part of wealthy men in Great Britain to enter "trade"—even an unwillingness on occasion to grant for commercial uses patent natural advantages that may lie, for example, on the edge of great estates, which, like fetishes, must be kept intact. An observer of both nations is struck at once with the aloofness of a part of capital from industry in one country and the contrasting cumulative momentum of practically all capital in the other country helping to drive industry ahead. There is a difference, too, in the normal attitude of employers—this bearing, I sincerely believe, on the restriction of output and the opposition to machinery with which the English trade-unions have been frequently charged.

There should be no restriction of output; it leads to the ruin of industry. If the English unions have pursued the policy they should drop it—every man should be free to do his best work and to rise through his own exertions. But it is also true that employees should receive fair treatment and the full fruits of their labor. And it needs to be said that the shortcomings of English industry have not lain altogether, or even in greatest measure, at the door of the unions. The trouble has been that employers have expected too much work for too little pay. They have had too little desire themselves to stimulate the initiative of their workmen. Suggestions by workmen, looking toward greater economy or greater effectiveness, such suggestions as an American workman might bring to his employer knowing he would be thanked and rewarded, are not only not welcomed but repelled. An English workman offering such suggestions gets off lightly with a reprimand—he is more likely to be "sacked." The manufacturers, moreover, have not merely kept

their men at arms' length, but they have not kept themselves up to date in scientific methods of production—in economical factory organization and in the latest and best machinery. The employers are most to blame for English restriction of output. Had they treated their men on the same liberal terms as the bulk of American employers treat theirs, and had they been as keen in installing new machinery, we should have heard very little of restriction of output or of labor troubles generally. Restriction should go, and the employers should lead in dismissing it. It is based, where it exists in England and where it exists in the United States—for it does exist in both countries—on the economic fallacy that there is not work enough to go round. True, there is not in congested spots. But in the newer English-speaking countries, South Africa, Canada, the United States, I have studied industrial conditions with care, and I know that now, at this moment, the world is crying for intelligent and willing hands. There is no dearth of opportunity; there is a dearth of labor—but the worker should go to the task; never will the task go to the worker.

Just this lavishness of opportunity here has helped the United States to its present eminence. There has been unequaled opportunity and it has been grasped. There is no doubt that the American workman is infinitely better clothed, better fed and better educated, and that he feels independent and self-respecting to a higher degree than his fellows across the water. He is more sober. He does not waste his money in betting. He has a greater ambition—because of widely diffused public education—to rise, himself, to raise his family, and to realize his responsibilities to the older members of his family if they happen to be left in want. In no country have I seen less poverty, crime and drunkenness than here or fewer public charity wards, or so few beggars. Brains and hands are cheerily working to exploit to best advantage unparalleled resources, as new avenues are constantly opening to give new opportunities. Here, however, as in England, the labor problem is pressing because such is human nature—the condition is a thousand times worse in England than here—that labor will not always go to the task that awaits far off, preferring to conserve every possible chance to perform some task at a more or less traditional home. I could say with heartfelt sincerity to the workmen of England what Horace Greeley once said to the youth of America, "Go west," for I believe that one day they must go west—to the United States, or to Canada, or south to South Africa or Australia—but so long as too many stay, a sociological problem must be solved, the problem of the elevation of the masses.

The chosen method of the workmen is the trade-union. So be it. The unions, mistaken in policy as they sometimes are, have already raised the condition of working people as perhaps no other single force has raised it. It is the business of communities and of employers, therefore, since the workmen will have unions, to educate them out of economic fallacies, to show them that wisdom does not come from firebrands, and to treat with them; for after all it is easier to deal with an organization than with aggrieved unorganized workmen. Such action tends toward industrial peace.

It has seemed to me that the ideal solution of difficulties has been worked out by the Civic Federation, a body whose effort it is to get employers and representatives of workmen to meet in close contact at round-table conferences and to investigate each other's conditions and points of view with the hope of eliminating prejudice and bringing vexed questions to a satisfactory outcome. That is the way to settle labor troubles. The commission have agreed with me in this opinion to the point of signing a memorial asking for the formation of a Civic Federation in England. I am confident that as a result of our visit to the United States one will be formed.

I may be permitted to add one more thought in view of the fact that socialism is not uncommon in America as well as in English trade-unions—a growing force, I might say. It is that the English and the American people have too much common sense ever to eliminate from industrial life the element of individual initiative that has made Great Britain and the United States what they are. But that workmen and employers shall both receive full return for their efforts—capital refraining from trenching on the rights of labor and labor refraining from trenching on the rights of capital—I believe that the following division of the fruits of industry will one day be made: fair wages for the workmen; a fair return on capital invested;

a percentage for depreciation of plant and for extensions; old-age pensions for workmen; an equal division between capital and labor of whatever remains in the form of profits. I do not expect to live to see any such division, but I am confident that such a division, retaining as it would every incentive to the greatest efforts both by employers and workmen, is what the industrial world is coming to, what the ceaseless war between combinations of capital and combinations of labor will eventually result in.

WHAT THE BRITISH UNIONISTS SAW

A RECORD OF EXPERIENCES GAINED BY ACCOMPANYING MR. MOSELY'S BRITISH COMMISSION ON THEIR TOUR—THE TROUBLE WITH ENGLISH INDUSTRY—HOW THE UNITED STATES IS WORKING OUT THE LABOR PROBLEM AND ORGANIZING ITS INDUSTRIES

BY

M. G. CUNNIFF

(The fourth of a series of first-hand studies of labor problems

THIS morning, when I asked a member of Mr. Mosely's British delegation if he thought American workmen labor faster than their English fellows, he drew his watch and said: "Look there."

We were facing a modern office-building, rising on a corner of Twenty-third Street, New York, on which a mason was backing granite facing with fire-brick. In five minutes by the English delegate's watch the man had laid one brick.

"I've been watching him, off and on, all morning," said the Englishman, "and that's his pace, twelve bricks an hour—and he's pretty busy at that. He reminds me of a workman I knew at home who could busy himself with a single brick all day. I remember one frosty morning the foreman saw him drop his trowel to flail himself with his arms. Foreman said, 'Hi, why don't you warm up by working?' 'Hunh,' said he, 'I'd rawther g'home frozen t' death than tired.'"

This incident has the picturesque delusiveness that easily leads to false conclusions about union labor both in England and here; for though neither workman was a type of anything but individual laziness, sweeping generalizations are made from such stories that confuse the labor problem faster than large facts can clear it up. A superintendent of construction on a great New York building told me one day last summer that the union bricklayers he employed were speedy and efficient workmen. Any builder, he said, can get good masons. That is a larger fact than the existence of an occasional shirk, but, unfortunately, such facts do not stick well. As for England—well, the story is quoted because for years we have heard of the "ca' canny" tricks of British bricklayers, exploited by just such tales, and as the man who told this, jocosely holding the watch on the Yankee masons, about whose energy he had heard, was the chosen representative of the British bricklayers, I knew he made light of one Englishman's inertia because he could show that the man was not a type o all English workmen. Indeed, he and his associates have made clear to me many features of both English and American industry that will furnish the thoughtful, as George Meredith says, with a bone to gnaw.

Through the courtesy of Mr. Alfred Mosely I accompanied the English commission of trade-unionists, concerning which Mr. Mosely writes in this magazine, on their tour of investigation through American industrial centres. During the summer I had studied American labor-unions, about which I have written in other articles, and I hoped, with foundation, that living east and west with the leaders of English unionism I could gain a fresh point of view of American labor conditions and at the same time learn the union side of the "ca' canny" tales that come to us from England. So I set out across the State of New York to catch the commission, which already had the start of me.

Over the New York Central the commission went to Schenectady to see how locomotives and electrical apparatus are made; to Niagara Falls and the great manufactories there, where I caught them; thence over the Lake Shore to Cleveland, where ship-building and other industries were studied; on to Chicago, back to Pittsburg via Dayton, to Philadelphia and Washington, and then to New York, whence the various delegates scattered to investigate their special trades in the East. Manufacturers enabled the English visitors to visit their plants; and all day the hotels where the Englishmen stayed were besieged with local labor-union representatives eager to introduce the foreign unionists to American workmen who would testify as to wages, hours, speed of work, the use of machinery and working and living conditions. Foregathering with these men amid scenes of vigorous industrialism was an inspiration in Americanism, even though many things I saw I pray will never take root in American life.

Here is what I mean. From a sociological point of view American industries are organized in three ways—all successful. In one the employers treat with trade-unions and make collective bargains as to wages and hours. In another the employers refuse to treat with unions, but pay good wages, inspire initiative, and maintain clean, wholesome factories. In another the employers hire cheap foreign labor and pay them poorly, sweating their profits from boys and girls and women in unwholesome workshops. I visited, for example, a cigar manufactory where little girls with flying fingers were toiling so fiercely at piece-work to make six dollars a week that they rocked from side to side with a pitiable rhythm; and in the cloakroom of the factory hung a placard which read, "Six cents a week will be deducted from each pay envelope for the use of soap and towel and grindstone." "Some kinds of prosperity," quoth one of the Englishmen when I spoke of this, "can be bought too dear." This factory is mentioned because there are plenty of others like it from which the English visitors could learn nothing. The other two kinds, on the other hand, were busily maintaining sound American prosperity and teaching lessons in every wisely conducted detail. They emphasized the fact that in the United States labor and capital are slowly working out a *modus vivendi* with a spirit such as Mr. Mosely is trying to arouse in England—a desire for a thorough understanding between employer and employee. Convinced from previous inquiries that labor troubles exist in the United States, where they do exist, despite the admirable efforts of the Civic Federation and wise employers and labor leaders, because there is a less clear mutual understanding than there should be, I was struck by the admiration these British union leaders expressed for the pleasant relations between American workmen and employers. I believe, moreover, that we have not yet learned the true condition of British industry—the true importance, I mean, of the employers' shortcomings in Great Britain.

Take, for example, the widely exploited story of Mr. James C. Stewart's swift building of the Westinghouse works in England, which is accompanied always with the statement that British unions restrict their members to four or five hundred bricks a day, one-third as many as an American lays. Mr. H. V. Taylor, the General Secretary of the British Bricklayers' Union, maintained to me that the "American" record of 1,000 or 1,500 bricks a day at the Westinghouse plant near Manchester was only on straight foundation work—a pace no faster than any British mason would set on that class of work for the wages paid. As the walls rose higher, he said, and the work became more difficult the pace hardly exceeded the regular four or five hundred. "I know," he remarked, "because I watched that work.

"But bricklaying," he went on, "*is* slower in England than here. In New York I will show you why." Later he did by pointing out walls shooting upward which, he said, were so slight that the building laws of England would declare them unsafe. He pointed to ornamental stone-work.

"That work," he said, "we do in brick, and no workman living can build such decorative brick-work and lay more than our union masons—one hundred and fifty a day. Your brick-work, too, is laid in parallel single walls with mortar in the intervening spaces. British architects now require that walls shall be bonded or locked together by the overlapping of the bricks on every layer—the bricks of the back wall with the bricks of the front—'grouted up' and 'flushed' are the terms."

With illustrations from brick-work that we

saw he gave these and other technical reasons to show that American work is faster than English merely because it is flimsier. "'Locking' every course of brick instead of every fifth course, as fifteen years ago," said Mr. Taylor, "has added thirty-three per cent. to the labor cost of bricklaying, and yet employers, demanding the added work, ascribe the increased expense to union restriction. They should look nearer home. And in so far as it is true that Mr. Stewart hurried his masons somewhat by paying more than the union scale, why, any other employer may hurry his men, and the Lord bless him, by using similar means. Employers can't expect an American pace on five times more complicated tasks than American masonry calls for, and at weekly wages of about ten dollars—an American mason's pay for two days. Not the 'ca' canny' unions, but the 'ca' canny' employers are the ones to wake up."

That was the tale throughout the trip. "We do not have this machine," an Englishman would say in one shop. "We don't employ that method," one would say in another. "The shops I know are not so well arranged as this," a third would remark. And one declared: "It is not so much that your men work faster as that American employers give them the best machines and arrange their work economically; that's why your output's bigger—your employers are up to date." Only the ship-builders were unmoved. "Our yards are better," they reaffirmed when I said good-by as they left for England. "In twenty-five years you won't catch us. You specialize your work; we specialize our men. And our method's better." But in other industries, agreed the members of the commission, American supremacy rests on automatic machinery, on subdivision of labor, and on the ambitious spirit aroused in workmen by the democratic contact between employer and workmen—all lacking in England.

In the great Carnegie steel works at Homestead I walked about with the representative of the British ironworkers over iron floors that scorched my shoe-soles, peering now through blue glasses into open-hearth furnaces where molten steel was boiling with the effervescing liquidity of soda-water, and now dodging a cherry-red billet swinging meteor-like through the air in a pair of tongs. Yet in those thunderous rooms where red-hot plates, full fifty feet long, ran back and forth through the rolls with a deafening musketry crackle as a workman sprinkled them with saltpeter, and then shot snakily out with their ends lip-lapping serpent-like along the rollers to the table—in all the successive infernos I missed the figures of men running here and there. Why? The men were not there. Three or four stood about each roll and a dozen or two were marking the finished plates in a shop at one side. Yet the plant simply clamored with activity. Gigantic tongs whirled here and there, great blocks of red-hot steel flew magically into place, shot along toward the rolls, smashed through, flopped over, smashed back again with a splatter of sparks, flopped over, ground through again, and then ambled off apparently alive up a long course of rollers. Glowing chunks of steel weighing tons serenely rolled and slid and flew through those mighty rooms as if animate. Uncanny electric cranes glided smoothly overhead. Trains of incandescent ingots puffed in and out. What moved it all? Well, there was a man sitting quietly at a lever here, another sitting there, and a few conversing quietly near the rolls; and as they crooked a finger now and then the whole pandemonium dinned its industrial pæan and steel products were created. "No, we don't have machinery like that," said my English companion. "Our men move the stuff about."

I should think so. Who does not have the idea that men "move the stuff about"? But American industry is great because men sit in chairs moving levers, and massive devils do mighty tasks at their bidding. Or perhaps little delicate devils keep crazily grinding or gouging or spinning—like one at Schenectady marvelously winding insulator on copper wire, a delegate told me, with a fascinating precision one could watch all day—and no man near it. Or like others I saw in rows in an instrument factory in Cleveland that crooned away to themselves in an oily song and dropped out bolts and screws with the regularity of clock-ticks. Or strident devils like a mortising machine in a Chicago furniture plant with an endless chain of chisels that ripped out mortises in rapid bites. Or quiet ones like an augur that bored square holes as I watched it in a shop on the banks of the Ohio. Or a colossal thing I saw from a tug at the mouth of the Cuyahoga inside the Cleveland breakwater—a thing that seized a

full-sized coal car and, turning it upside down, dumped its roaring contents through a chute to the hold of a steamer as a boy would empty a hatful of nuts. Farther up the river were spidery structures that automatically emptied other steamers—mysteriously working away with no man in sight.

"We don't have machines like these," I heard again and again, for we saw a hundred others: buttonholing machines; a color-printing machine, which one of the visitors said could print four colors with one impression, "while we should need seven"; a machine for pressing wood-scraps and veneering the slab to look like solid wood: I cannot go into details. It is sufficient to say that our visitors saw machines they had never seen before. Progressive men themselves, open-minded and intelligent—I was sorry to part with them when they left us—they expressed such ideas in personal conversation that I cannot but believe the English employers in the main responsible for the backwardness of England in the matter of machines. Think of recent improvements made in printing presses. I heard of one English employer who replied when urged to "scrap" an antiquated press: "Oh, there's work in it yet. I got it second-hand about thirty years ago, and I've run it pretty steadily, but there's work in it yet."

A shipyard on the Calumet River at South Chicago was producing lake freighters with speed and precision by specialized manufacture of standardized parts. Plates were made by wholesale, punched by wholesale, riveted by machinery—in brief, simply rushed with clocklike regularity to their places in a swiftly growing ship. The machine shop was so clean and warm and brilliant in the sunlight pouring through its walls of glass that it must be a joy to work there. It was a better shop, I was told by my companions, than English shops, and the production of the plant was faster than English production. But as no lake freighters are built in England, so that broad comparisons are impossible, the point I wish to make in regard to the yard is that the youthful superintendent in charge did the managing work himself with a total office force of ten employees, conducting the plant in competition with other shipyards in the great lake shipbuilding trust at the highest standard of efficiency by personal direction. It is worth emphasis that the combination secures economy by pitting this superintendent's executive ability against that of other superintendents in other trust yards from Duluth to Buffalo, and making him responsible for keeping the pace the other yards set. But a comparative point is worth attention. I learned that in English industries of this sort the superintendent does not work in shirt-sleeves, so to speak, but surrounds himself with a cohort of subordinates. Orders are passed from one to another with consequent lost motion, and pay-rolls are burdened with men who do other men's work for the sake of preserving a managerial dignity for which the average American employer cares not a straw. Here, as in the matter of machinery, I have the word of Mr. Mosely and the delegates, the United States is far ahead of England. Again the employers and not the unions are at fault.

The subdivision of labor at this plant and many others we saw is typically American. Our industries are highly organized. There was a vast imaginative suggestion in seeing within a week the centre near Pittsburg, whence the iron and coal of the greatest iron and coal producing country in the world converge from a hundred widely separated districts and then debouch to the world; the centre where the hogs and cattle of a continent enter in snorting herds of thousands in a day and then go out in cans, bottles, boxes and refrigerator cars, also to the world; the long lines of freight trains bearing these American products and wheat and corn from the farm of the world to seaboard ports for distribution to the hungry peoples of the world. Teeming behind the railroads and the busy manufacturing centres lies a land that is moved by a mighty fruitfulness—the gift of nature. But at the centres and along the railroads the fruits of the earth are transformed to usefulness by a process resulting from the brain-work of men. Subdivision of labor is the keynote.

At a packing-house in Chicago six girls about a table divided the simple motions that go to filling vials with beef extract. Could subdivision go further? In a freight-car works in Pittsburg one man drove nails all day at so much a nail. In shipyards, machine shops, locomotive works, clothing factories, tanneries, shoe-shops, men drove machines from morning till night which did but one thing. Step by step in every industry

from furniture making to building sky-scrapers, materials slid through trained hands, or more often automatic machines, that worked some infinitesimal change, and that only. But the total of results made car-loads of products with unparalleled rapidity.

Would the unions object to such methods in England? I have only the earnest words of their representatives that they would not. But observe this fact, which struck me with stunning effect when it dawned on me and I thought of the fears so commonly expressed that American unions were tending to drag our industry to the British level. *The American labor-unions are today equal in numbers to the British unions and far more aggressive.* There are nearly two million union men in Great Britain. The American unions, both in the Federation and outside, aggregate about as many. But American unions demand more than English unions; they strike more readily; they boycott, through the use of union labels — which are unknown in England—with a fierceness that appalled those English delegates with whom I talked of the matter. The English unions are hedged by law and by tradition. As one representative said to me: "We know just how far we can go—both employers and unions. You—good heavens! you have no bounds at all." True. These English labor leaders have struck me as business men; their tales of their work have been tales of executive management, of investments of union funds—sometimes in the business in which the union men are employed—of conducting coöperative stores, of serving on conciliation boards. American labor leaders have struck me as generals in the field; their talk is of campaigns. Our unions, then, are stronger, and our industries—well, the steel works I saw were months behind orders. Industries everywhere were producing feverishly. Cleveland was in urgent need of labor it could not get; Pittsburg and Chicago were groaning over the freight-car shortage; the country was swallowing the immigration grist and digesting whatever union elements —even the socialistic froth — rest in its economic body with a healthy cheerfulness to make an American glad and to force one of the Englishmen to say: "Opportunity! If I were twenty years younger I'd emigrate." The unions, I believe, are a very small part of the English disease.

Mr. Mosely says that an English workman who offers a suggestion toward improving methods of work is likely to be "sacked." Concrete examples of this sort of thing were explained to me on the ground that British industrial life is so crystalized that a foreman resents a suggestion as a hint of his incompetency likely to result in his discharge; and discharge would mean seeking for work in a country where golden opportunities are as rare as weeks of sunshine. Secondly, it was asserted—not merely by these British visitors, but by some of the most illuminating people I met on the trip, English-Americans who called on their fellow townsmen to tell tales of their experiences in the modern Hesperides —that British employers hold aloof from their men. One told of getting his first job in this country. He entered the "master's" office very timidly. "Hello," that bluff American said, "what do you want? A job, eh? Have a cigar. Well, what can you do?" and so on. The English lad's breath was taken away. So these stories ran.

"No, we would not object to American methods and American machines," said one of the union leaders. "But the employers must abandon their aloofness and talk the matter over with us, for American methods will mean that some of our men will be sacked. They must not cut day wages or piece prices and make a two-dollar-a-day skilled workman change over to tending machines at a dollar a day. But if the machines come in and the employers treat us fairly, even though inevitably some men must go, we are ready for American methods. Our conciliation boards are ready to discuss the question. If a Civic Federation is started—and I think your Civic Federation is a good thing—that will help. And if employers there will show the same spirit they show here, there will be no difficulty. The employers must wake up."

I cannot dwell further on facts I learned on this trip—from the delegates themselves, from Mr. Mosely, from the English journalists, from Mr. S. B. Donnelly, and from Mr. Marcus M. Marks, in addition to what I saw; but let me quote what one of the Englishmen said when I asked him how President Roosevelt impressed him. He said:

"He sums up my impression of your country. The United States as a social force is at work evolving *a man.* The President is a type of that man."

VIEWS OF READERS ON RECENT BOOKS

THE WORLD'S WORK sent a letter to some of its literary friends asking them what recent books they had read with the greatest pleasure and profit, and requesting that their replies be after the manner of a personal letter. Some of these replies are as follows:

ELLEN GLASGOW:

I have just turned from my sixth careful reading of "Kim" with the feeling that I had touched the invisible spirit of the East—a feeling that nothing else has ever given me save the Sacred Books themselves. So vital, indeed, is the scholarship in this book, so flawless the force of words, that it seems to me to stand for nothing less than the outward semblance of an eternal verity. It is because of this peculiar genius of sympathy—because of the *soul* that directs and animates the art—that I would rather have written "Kim" than anything that Mr. Kipling or anybody else has done for the last ten—or even twenty—years.

I find Mr. Henry James' "The Wings of the Dove" a wonderful elaboration of a slight idea—an exquisite word embroidery of an insignificant pattern—and (to veer rather abruptly from art to nature) of Mr. Thompson Seton's animal stories I could never have enough though they should—as I devoutly hope they may—go on forever.

Of recent fiction I saw a decided promise in "The House with the Green Shutters," though I hesitate to declare it a distinct achievement. Mrs. Wharton's "The Valley of Decision" seems to me, on the other hand, to be a noble fulfilment—a work of rare sincerity and composure, and I confess quite frankly that I have enjoyed it more than any novel of the year.

TUDOR JENKS:

"Anticipations," by Henry George Wells, is alive. It is broad in view; it is the result of an imagination big enough to take a bird's-eye view of the world. You feel when reading it that petty things may be forgotten because big things are so much bigger. I believe that, whether or not we are traveling toward the developments Wells foresees, he teaches us to ask where we are bound and if we wish to go there. So many men wear blinders that few have a wide horizon. "Anticipations" takes off your blinders. While you may shy, you will see more than the road dust.

"The Blazed Trail," by Stewart Edward White, is also living. It smells of outdoors, and while telling the life of a lumberman it never forgets the man in the lumber. White has no hesitation in following his own blazed trail, even when it leads him through riot, fire and bloodshed: but he keeps both head and heart above his mere incidents, and has produced a book that is as human as it is American, and is equally readable in a fashionable club or a bark shanty—a book for which no reader is too brainy or busy.

"An Island Cabin" is another book that has individuality and power. The author, Arthur Henry, is a homespun Thoreau—homespun, because he writes without the literary pose and doesn't leave out the very things we like to know. Thoreau makes one feel his disapproval—he forgets Shakespeare's wise saying, "Nature is made better by no mean but nature makes that mean"—and does not see that a city is as natural as a rose or a toadstool. The last page of Henry's book is a recognition of this truth, but the whole book is an application of it. Then, too, there are good episodes all through—the drowning of the wicked kitten, for instance, is a gem. The whole volume is thoughts put into writing, not writing trimmed with thoughts.

Maeterlinck's "Life of the Bee" I liked because it is prose poetry—facts where facts are wanted, and speculations in their own place. It makes one think, and treats the reader with respect. We are sick of being taught—none of us knows enough to be condescending—but we like to be led by one who knows the way.

Besides these, I'd like to say a word in admiration of the "Oxford Book of English Verse," chosen and edited by A. T. Quiller-Couch—a delightful companion for a traveling library or on one's desk at home. Good poetry is a tonic inexhaustible, and the range of this selection is from A. D. 1250 to 1900. In the India-paper edition it is a marvel of compression. Personally, I can live without a constant diet of novels.

WILLIAM STEARNS DAVIS:

Of the recent novels I have read the one leaving the pleasantest after-taste is Mr. Allen French's "The Colonials." A steady diet of Revolutionary stories led me to attack it with hesitation, but the hesitation ended with the first chapter, and I was sorry when I finished the last. It had action, literary charm, a nice balancing of characters and something more—a deep sincerity underneath all the sword-play that lifted it far above the host of swashbuckler romances which try to conceal their woodenness behind much clatter. Very different is the satisfaction given by Miss Norma Lorimer's "By the Waters of Sicily." There is a little thread of a love story, not too serious to divert from the pleasures of a most delightful journey through the island of Syracuse, Taormina and Palermo. In Mr. Stephen Phillips' "Ulysses" I think we have perhaps the high-water mark of all recent dramatic verse. If superb literary technique alone makes a masterpiece, it is here, unfortunately, the reader feels "there is one thing lacking," and that is soul. It is hard to improve upon the "Odyssey," and Mr. Phillips is not too blameworthy if he has failed. Of still different mood is Prof. William James' "Varieties of Religious Experience." It is an admirable attempt by one of the most fearless and best accredited psychologists of the age to show an essentially scientific justification for religious emotions, and to tear away the barriers which have been assumed to exist between faith and reason. A wide reading of this book would dissipate a certain phase of "unbelief" more than a myriad tracts.

C. M. FLANDRAU:

Mrs. Wharton's "The Valley of Decision," Mr. Kipling's "Kim" and Mr. Wister's "The Virginian" are the only recent novels I look forward with much pleasure to reading again. For chronological, if for no other reasons, Mr. Kipling's series of pictures is more living —less consciously "educational" than that of Mrs. Wharton. But if Mr. Kipling runs a dazzling cinematograph, Mrs. Wharton performs charmingly on the stereopticon.

The sentimental grasp Mr. Wister has on his "Virginian" is almost always beautiful, and in the really great chapters called "In the Cottonwoods" and "Superstition Trail" it is extremely moving. Perhaps it is just as well that the other characters in the book are either sketchy or frankly conventional. The fact gives one more leisure in which to adore the Virginian.

Not the least engaging trait of the humorous, pathetic and altogether refreshing collection of sketches Miss Edith Wyatt has called "Every One His Own Way" is its delicate flattery of the reader's own keenness and general superiority. One reads them, steeped in the comfort of lamenting that no one but oneself is quite clever enough fully to appreciate them.

M. Maurice Maeterlinck's "The Life of the Bee" is more romantic than romance, more poetic than poetry. Only a pitying consideration for those who have not discovered it restrains one from establishing — in the manner of M. Maeterlinck himself—an apiary in the drawing-room.

GEORGE ILES:

Why do we read novels? Because they deal with that theme of undying interest, human nature. That, after all, is the apple for which we accept so much paste in the shape of scenic setting, historical properties, more or less tedious moralizing. Commend me to such a book as Prof. William James' "Talks on Psychology to Teachers," which takes up human nature by itself, its thoughts, emotions, feelings; which serves up apple without any paste. Professor James is a man of science, a man of letters and a thorough man of the world. He addresses himself to teachers: that is what we all are; if not teachers of our own children, then of the children of other people, oftenest of all the ignorant teachers of ourselves. Were it only for its supremely wise and gracious chapters on "Habit" and "Memory," this book should be in the hands of every man and woman in America. We rise from it nourished and stimulated. Apple pie is good; plain apple, sound and crisp, is better still.

A great biography is "Huxley's Life and Letters." Here is a man in whom new thought aroused new powers of expression, a man of keenest insight, of masterful will, a fighter if Nature ever made one. And yet brilliant as his work undoubtedly is, it has neither the weight nor originality of Darwin's or Spencer's. Nothing, indeed, was finer in Huxley's career than his discipleship to Darwin.

In his "Facts and Comments" Herbert Spencer

> "Obeys the voice at eve obeyed at prime."

As in 1842 he inveighed against the encroachments of government upon individual liberty, he sees to-day only slavery in the rising tide of imperialism, only rebarbarization in the resurgence of the warlike spirit of the hour. And with chapters that might well be woven into "First Principles" and the "Biology" we

have glimpses of the heart of the man, unrevealed before. He mourns the disappearance of the rustic plank and hand-rail as they make way for the country bridge of stone or brick. He regards with a sigh the hedges of clematis, bryony and wild hop, the roofs of thatch, the strips of greensward and wild flowers bordering the byroads, which are fast vanishing before "improvements." In a vein well worthy the author of "Synthetic Philosophy," he argues that feeling and not intellect is the weightier part of the mind: a dictum fully borne out by these latest pages of this profoundest generalizer of our time, perhaps of all time.

THOMAS DIXON, JR.:

Of books recently published "Kim" confirmed my opinion that Kipling is the great poet of the century. Of course, "Kim" is not, strictly speaking, a novel, but it is a great prose poem of epic grandeur. Its sentences echo through one's soul like the music of a grand organ touched by a master's hand. "The Right of Way," with all its faults of melodramatic and improbable situations, is still one of the most fascinating stories I ever read. It is so beautifully told one is inclined to forgive all faults. "The Bar Sinister," the story of that bull terrier in Davis' "Ranson's Folly," is the best short story I ever read. Mrs. Wiggs is the most original and one of the most beautifully clean-cut character sketches of the year. The paragraph in which Mrs. Wiggs gives the obituary of her late lamented husband in pantomime, imitating a man drinking out of a bottle, and that without adverse comment, is the richest piece of humor I've read in many a day. My household, young and old, fell in love with "Mrs. Wiggs."

But the book that moved me most profoundly was "Helen Keller's Autobiography." I confess that I read every chapter through a mist of tears, and over some parts cried like a baby when nobody could see me. That sentence where she said the feel of the roses in the New England garden was not so soft and tender as that of those that climbed over her mother's cottage in Alabama knocked me clean out! There's something about her story that finds the inmost depths of one's heart. There is infinite pathos in this simple narrative of a child's soul slowly fighting its way out of eternal night into light and love and knowledge. There is absolutely nothing like it in the literature of the world.

CAROLINE A. MASON:

In G. W. Steevens' "In India" the book of travel strikes me as having reached high-water mark. Keen observation, trenchant wit and an extraordinary power of vivid characterization combined to make Mr. Steevens the ideal traveler. This seems less a book about India than a glimpse of India itself.

In Mrs. Wharton's "Valley of Decision" I labored under the disadvantage of supposing myself to be reading a romance pure and simple. I shall read the book again when I want an illuminating discussion of eighteenth century Italy, its philosophy, politics, religion, morals and manners. As such—and this I take to be its real scope—the two thick volumes would be none the worse either for the occasional brilliant dialogue or for the intermittent action which link them to the domain of fiction.

M. A. DE WOLFE HOWE:

I have read the new "Longfellow" by Col. T. W. Higginson, and the new "Hawthorne" by Prof. G. E. Woodberry, each in the "American Men of Letters" series. One would think the easier of the two to write would be the "Longfellow." It has, indeed, the peculiar value which must come from the author's personal relations with the poet as his teacher and his friend. Yet it must be admitted that this volume will make its strongest appeal to the new reader whose studies have not yet led him to the excellent longer and shorter lives of Longfellow previously in existence. Partly, indeed, because the "Hawthorne" was the more difficult task, it may evoke a more general response. In spite of the fact that Hawthorne's wonderfully autobiographic "Note-Books" and the abundant biographical writings of his son, daughter and son-in-law are within reach of all, there is a natural curiosity to learn exactly what Hawthorne means to one of the most searching students of letters in the generation that has followed him. Professor Woodberry has put conscience and thought and a native sympathy into his undertaking. If the reader, new or old, puts down the book with a touch of disappointment that Hawthorne and his art are not explained quite so wholly as was Poe, treated in the same series by the same writer, let him remember that here Hawthorne is the theme.

A NERVE CENTRE OF BUSINESS

A GERMAN manufacturer who recently traveled through the United States for the purpose of studying American industrial methods, announced at the conclusion of his trip that the most interesting thing he had found in America was Cupples Station.

It is probable that the German visitor was right, and that in the handling of wholesale merchandise there is no institution in the world so perfectly organized as Cupples Station in the city of St. Louis. St. Louis is the great wholesale distributing point between the Southwest and the rest of the country. Its manufacturing and trans-shipping business is very large, and the plan of the city favors the centralizing of all the railway lines. Through the Terminal Railway the various lines bringing freight into the city run over a single group of tracks that lie in a depression between two of the hills on which the city stands.

Grouped about the mouth of the Terminal Association tunnel is the collection of eighteen immense brick structures which compose Cupples Station. Some of the largest wholesale concerns and heaviest shippers in the country are tenants of these buildings. The advantages they have come from the quick and economical handling of their goods. In New York City more than 30,000 trucks are employed in the movement of goods, and all merchandise must be loaded and unloaded twice in entering and leaving the city. At Cupples Station the switches from the various tracks run directly underneath the buildings and are connected with the large shipping rooms and truckways on the upper stories by a system of high-pressure hydraulic elevators. A single package of merchandise or a carload lot can be shipped from the rear of any of the buildings to any railroad point in the country with equal facility and without the expense, delay and possibilities of damage which exist where cartage is necessary.

Cupples Station occupies an area of more than thirty acres and contains a floor space of 1,500,000 square feet. Its thirty tenants represent an invested capital of above $25,000,000 and an annual business of more than $75,000,000. It receives and ships more than 1,000 tons of merchandise per day, and does a greater business than any freight station in the country. The immensity of the interests represented increases the efficiency of the work done.

HANDLING GOODS FOR A METROPOLIS

THE system in operation is practically as follows: During the night cars are being delivered on the station tracks from all of the railroads, both east and west of the river. Coffees, sugars, hardware, and all sorts of manufactured articles are arriving from the East; dried fruits, canned goods and many other products are received from the far West. At seven o'clock in the morning the large force of men, constituting the Cupples Station employees, commences to unload these cars. With the system of trucks especially designed for the purpose, as many as fifty or sixty cars have been unloaded within two hours and the contents have found their way to positions in various stores.

Practically all of the incoming goods are received and piled in the respective buildings before nine o'clock in the morning, instead of coming at all hours of the day and blockading the goods that are being shipped. At nine o'clock, or even before, large trucks commence to roll out of the various stores on the upper or shipping truckways into the great freight-receiving room, where they are received and the bills of lading signed. Here the goods are assorted for station order loading, and they go out by trains over the various roads during the day. Each of the roads has a schedule hour for pulling out its train, and the firms constituting the Cupples group assort their orders and get out their goods to conform to these schedules.

It would be hard to find a busier sight than that afforded by the constant flow of trucks, the numerous elevators dropping them to the lower levels, the coming and going of trains, and the many activities of the station. Over 4,000 of these trucks, on each of which more than 5,000 pounds of freight can be loaded,

are necessary to handle this daily traffic. For goods arriving the trucks are pushed into the cars, loaded, drawn to the elevators of the various buildings, elevated to the floor where the goods belong and pulled to the positions where goods are piled, so that there is but one handling; and the same thing is true of the shipping process.

All the details, loading, unloading, arranging shipments, securing bills of lading and similar duties involved in the receipt and shipment of goods are managed by the station employees, and the cost of this work is assessed pro rata on the different tenants. Each occupant of the station receives his goods at the door of his office, and in making shipments need only place his packages on trucks in his storeroom and run them outside his door. All the rest is attended to by the station management.

Cupples Station represents to its tenants convenience and facility in shipments, economies in labor, in the operation of elevators and trucks, economies through the elimination of the expense of drayage and through the saving of waste and damage to goods in handling, and it also represents a saving in the cost of light, heat and steam, owing to the location on the premises of an electric-lighting and steam-heating plant operated by the company. The whole enterprise represents the most complete development of a typically American idea, and as such its operation is of importance to the industrial world.

Cupples Station was built up and developed into a successful business enterprise by Mr. Samuel Cupples and Mr. Robert Brookings. A few years ago, in pursuit of the educational gifts which they began to make many years since, the entire property, involving an investment of millions, was turned over to Washington University in St. Louis and it is now operated for the university's benefit.

INDUSTRIES AND TOWNS TO ORDER

LYING at the eastern base of the Rockies, almost in the centre of Colorado, is "New Pueblo"—"new" in distinction from the Pueblo of a decade ago. Ten years have brought this town such progress and such prosperity that it is called the Pittsburg of the West. Its situation has had something to do with the transformation. To the south and west are great coal deposits, the nearest only twenty-five miles away. The Florence oil field is at about the same distance. The town is a natural railroad centre. All these natural advantages have attracted manufacturing industries, and with them money and men. And this is the story of the development of most American cities.

In this recently awakened town has developed the plant of a great iron company. This main plant is the centre of a large number of secondary works and factories in Colorado and out of it, for the company controls railroads, coal mines, iron mines, telegraph lines —everything, in fact, that will make the company's product more simply and easily handled. But the works at Peublo are the great nerve centre of the business.

Here in great factories that cover several hundred acres of ground 5,000 men are at work daily, besides 1,500 others who are making improvements and additions to the equipment. The total product last year showed an increase of nearly 325,000,000 pounds over that of the year previous. Three blast furnaces with a capacity of from 200 to 400 tons of pig iron a day are not enough. Two more large furnaces are being built. To meet this increase two ten-ton vessels will replace the present five-ton vessels in the Bessemer steel converter. The rail mill, when enlarged to handle the steel this will furnish, will turn out 1,000 tons of steel a day. Five new steel rolling-mills are building. The largest wire mill in the world is going up alongside of these—a mill that will employ 1,500 people. Another mill for steel plate is nearly completed. The tin plate mills when they are ready will give work to 900 men and women. The new foundry will have a daily capacity of 100 tons of castings. When all the enlargements are completed there will be upward of 12,000 people employed at these mills. And all is being done rapidly in the wholesale American manner of getting a result in the quickest and most capable way. The improvement will cost approximately $15,000,000.

Two large storage lakes have been artificially made south of Pueblo to furnish water to the plant, and another is being built. Nearby a large structure that will turn out 5,000 steel wagons is being built by another company. All these mills and the auxiliary factories that are settling in Pueblo are at the very mouth of coal and iron mines. The raw material then is at their doors; they convert it into marketable shape and ship it east and west to the entire world.

So great is the demand for wrought material that with all our united industry at work it is being imported. And so, unhesitatingly, Americans build up a great new industry and a new industrial centre to meet the need.

SOLVING A SOCIAL PROBLEM

THIS company has had to meet, also, a difficult sociological problem, and it has met the difficulty in an interesting way. The

population of its employed forms a cosmopolitan army of some 75,000. These people, speaking twenty-seven distinct languages, house their families in some forty communities. The children of this varied parentage fight at school; even the sick and convalescent in the hospitals are constantly at war with one another. Doctor Corwin and his thirty-five assistants, therefore, have organized all kinds of evening entertainment. Cooking schools were established and night schools, clubs and libraries. In the club-house at Coalbasin—for they are not experimenting with Prohibition there—good liquor can be bought cheaply in small quantities. Pool, billiards and poker are allowed, and the stakes played for are limited to twenty-five cents. Everything is done to give the men in a decent way the sort of good time they crave. The result, to quote published reports, is as follows:

"Under present conditions not only are men ashamed to get drunk, but it is a matter of 'bad form,' and even of shame, to drink more than two or three times in one evening. Ordinarily the miner takes a drink on coming into the club, plays a game or two of cards or of pool, sometimes follows this with a second drink and goes home. . . .

"Notwithstanding the low prices at which everything is sold, the club is practically self-sustaining, which is all that is desired, inasmuch as no returns on the investment are expected. Whatever profits may accrue are intended for use on improvements, extensions and auxiliary features."

To teach moderation and decency and a feeling of social good fellowship, this is not only a good thing for the men, but as well for the mills.

RIGHT RELATIONS OF EMPLOYER AND EMPLOYED

A LARGE and very well known manufacturing concern has carried out for twenty-five years a systematic plan of making merry with their employees at Christmas. Gifts are given to all, umbrellas, gloves, pocket-books, and many other useful articles. Long-faithful workers have often received gold watches instead of the smaller gift. At first the custom was easy to maintain, but when the business grew to enormous proportions it became difficult to find any place in the works large enough for the annual celebration. Two or three years ago, therefore, a large auditorium was built with a large stage, balconies, opera chairs and the complete equipment of a modern theatre, for this and other gatherings of the working force.

The idea from the beginning was not to give presents as a sort of added compensation, but it was simply the natural observation of Christmas among co-workers in a large business. Two years ago a new plan was put into execution. The employees were the guests of the firm at a Christmas dinner, after which, in accordance with a previous invitation, they brought their children, and in the case of the young men and women, their younger brothers and sisters or other young friends, to whom toys were distributed at the close of the entertainment that had been planned. Some 7,000 toys were given away, and last year, at their own suggestion, the girls in many of the departments provided small trees upon which were placed their remembrances for friends in the same department.

Good fellowship rather than the charity or the kindness of a patron; this has the germ of the settlement of labor difficulties and the union of all for the best industrial result.

A TALENT-SAVING STATION

IN the narrow, tempestuous channel called Rivington Street, in New York, where every day and all day the tides of traffic surge heavily to and from Second Avenue and the Bowery, a little band of young men and women is conducting what Doctor Felix Adler has aptly called a "talent-saving station."

The idea of founding a music school for the children of the very poor in New York City originated with Miss Emilie Wagner, who came from the West in 1894 eager to devote herself to benevolent work in the slums. One day she attended service at the Baptist Mission and, hearing the children sing, her cultivated ear caught at once the true, musical note of the untrained young voices of the little Russian, Polish and Rumanian Jews. By the autumn of 1894 she had formed a music class at the mission, teaching in one room until the limited quarters refused to accommodate the increasing number of her pupils, and she was compelled, after a few months, to remove to a tenement house in the neighborhood, where there was more space. From a class instructed by herself, her work grew to the proportions of a school which required the service of other teachers and the administration of a committee. Teachers were discovered among the best equipped musicians in the city who readily volunteered their services gratis; while the committee consists of persons chosen jointly by the College and University Settlements, which organizations are still providing for the financial life of the school.

THE SCHOOL IN THE SLUMS

NO. 31 Rivington Street is an old-fashioned dwelling-house of the English-basement type, and though it was once no doubt a

"gentlemanly residence," it has long since fallen from grace. Inside, however, much has been done to redeem it. The walls are tinted a dull green and form a background for several good prints of classical subjects and one or two well-selected plaster bas-reliefs. The painted floors and stairways, while bare, are kept admirably clean—in fact, cleanliness forms a recognized branch of the school's curriculum. The child who presents herself at the door on opening day with unkempt hair, soiled fingers and slovenly clothing soon learns by suggestion and example the practical as well as spiritual advantages of clean hands.

There is not an inch of available space in the whole building which has been wasted, and during the busy hours of the afternoon and evening, when the public schools are "out" and the children at liberty, one may find classes for voice culture in the back basement or kitchen, a violin lesson progressing in a curtained-off corner of the cellar, pupils practising on piano or "clavier" in the tiniest of low-ceilinged closets under the roof, while on the stair-landings and in dim passageways instruction on the "strings" is being given by "practice-teachers" to beginners, in defiance of the waves of sound which surge upon them from below, above and all around.

PUPILS BECOMING TEACHERS

THESE practice-teachers, by the way, are older children who have so far progressed in their work as to be capable of keeping a critical eye upon the very little ones who cannot be trusted to perform their exercises alone. Later, as they themselves progress, the practice-teachers are given pupils of their own whom they instruct under the supervision of a head teacher. Here we find a beginning of normal training as also of the opportunity the school is most anxious to provide—of a means of practical support for its pupils; for out of every four cents paid in to the school for a fifteen-minute lesson, the practice-teacher receives three cents, and so on in inverse ratio, until having advanced in efficiency she can claim her share of eight cents for a twelve-and-a-half minute lesson, when she has reached the limit of rates quoted by the school. From that time on she is encouraged to take pupils at home and gradually she becomes self-supporting and independent.

THE MAKING OF MUSICIANS

THE instances are steadily increasing where the parents of these little musicians, inspired by their enthusiasm and seeing a hope for the future in their training, pluck up heart of ambition and grace and buy a piano on the instalment plan. The payment of five dollars a month comes the easier when the school sends its overflow to practise on these instruments, for even four cents for half an hour's practice sums up, and at the end of the month the profit from such rental often amounts to three dollars and a half—a substantial contribution toward the required five.

Perhaps the purpose and provision of this little school in the slums are more nearly in harmony with those of the great German conservatories than is the case in any other institution in the country. Elsewhere, pupils of acknowledged talent, who have already had ample instruction, are given opportunities to compete for free scholarships; but here the aim is to discover latent talent and, when it is found, to provide for it generously and develop it to its most perfect expression.

A NEW EDUCATIONAL MOVEMENT

AT Wesleyan University last July was held the first session of a summer school in the interest of "home science." In all parts of the country, and especially in the central West, instruction in home economics is being rapidly introduced, not only in technical schools, but in the public school, the college and the university. It is mainly for young women who are to be the home makers and who need modern science for the betterment of the home. Of the branches of science, it happens that research is now especially active in those pertaining to food and hygiene. The best organized, most extensive and most thorough inquiry in the world regarding food is that carried on by the Department of Agriculture. It is under the immediate supervision of Professor W. O. Atwater of Wesleyan. Some of the most important work upon the subject of food preparations is being done at Wesleyan by Professor H. W. Conn.

At the session of the National Household Economics' Association in 1901 a group of teachers especially requested a summer school at Wesleyan and the trustees of the university gave assent.

Thirty-seven were actually present as students. They came from all parts of the country—from Maine and from California, and even from England and Japan. The faculties of a number of technical schools and colleges, five State universities and one medical school were represented.

It seems likely that this first session of a pioneer school for putting the practical, everyday things on a scientific basis is only the first step in a great and important educational movement.